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Assessing normative claims about democracy and public health: A multi-part approach utilizing quantitative analysis of international datasets with qualitative analyses of South Korea and Singapore as case studies

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Assessing normative claims about democracy and public health: A multi-part approach utilizing quantitative analysis of international datasets with qualitative analyses of South Korea and Singapore as case studies

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Normative understandings of democracy and public health have led to hypotheses that the democratic-ness of a country should be positively associated with its public health outcomes, given that the a democratic state is more likely to be responsive to the needs and demands of its population than an authoritarian regime. However, initial analysis using data from the World Bank and the Freedom House seem to indicate that there is little or no relationship between democracy and public health, and that in some cases, such as Singapore, authoritarian states fare better than democratic states, such as South Korea. I argue that this seeming discrepancy between normative expectations and outcomes can be explained by the following: 1) rather than regime type, democratic experience, or exposure to democratic experiences are positively correlated with better public health outcomes, such that the recent "waves of democratization" in countries without substantial state capacity and extensive democratic experiences has skewed the data; 2) in the short-term, rather than regime type, economic capacity and development are far better predictors of public health outcomes, and 3) in a comparative case study between South Korea and Singapore, South Korea's seemingly negative performance can be attributed to political transition effects and the impact of liberalism (or illiberalism) on how policy is implemented, rather than the democratic nature of the South Korean government after 1987.

Introduction

With the advent of the so-called "Arab Spring" and what appears to be a greater mobilization process globally for democratization, it is now more important than ever before to understand how the process of becoming a democracy affects a nation's public policies, especially when it comes to providing a public good, a few important ones being national security, internal stability, protection of individual rights and liberties, and the implementation of public health policies. These public goods focus on what are essential aspects of social living that are difficult to attain with an individual's level of resources – for example, it would be difficult for one man to control and maintain stability over an entire nation, but the collective efforts of a nationally and regionally maintained force to "keep the peace" makes such control a feasibility. The key aspect here is that public goods are unattainable with an individual's level of resources, such that a publicly endorsed and supported governmental regime must collect resources from the whole, in order to provide such necessary goods by dividing up the resources in a manner that the government sees fit (Lipset 1959). However, the idea of a "publicly endorsed" governmental regime does not necessarily mean a democratic one; for example, authoritarian regimes were often happily accepted by nations in past times, and even today, most states do not hold to a fully democratic system, but instead opt for a diluted down version of a democracy, whether it is a Republican system, or a quasi-authoritarian system with only the face of a democracy (Morley 1999).[1] The question, then, is this – does a greater democratic nature necessarily mean a more beneficial system of distributing public goods than in a state of a less

[1] This has especially been true in East Asia, where even "democratic" countries might very well be perceived as draconian – or at least less politically liberal than their Western counterparts, with the rise of a so-called Asian form of democracy, which is characterized by strong state involvement in social affairs, with relatively few barriers in the economic sectors to encourage financial growth. For an in-depth perspective on this topic, please refer to: James W. Morley, ed. Driven By Growth (New York: M.E. Sharpe, 1999), 258, 313-354.

democratic character? Furthermore, if and when transitions occur from a less democratic state form to a more democratic state form, what are the effects on the systematic provision of public goods?

The reasons for asking such questions are primarily founded upon an ideological concept of democracy – and indeed, when one considers what democracy *means*, then it becomes possible to think about democracy in a way that makes more sense with respect to efficient and effective public policy implementation. A simple definition of democracy, based on the Greek root δημοκρατία, can be stated as follows: *Democracy is a system of governance that is predominantly dictated by the will of the people.* Based on this definition, it would be logical, then, to assume that more democratic systems of governance would be more responsive to the wishes and the needs of the public, as the political power in a democratic system would be vested mainly in *vox populi*. As such, a democratic system can be assumed to be more likely to support policies which are beneficial for the public as a whole, with redistribution of social resources being focused on the provision of public goods, rather than a centralization of wealth for a singular figure or group – as would be the case in a monarchy or an oligarchy. Indeed, in this context, it is appropriate to expect that there would be greater variability in the quality of public policy outcomes for authoritarian states, since they may very well be benevolent dictatorships which rule with the good of the people in mind – but they may also very well be kleptocratic dictatorships, which operate with little regard for the public good. Thus, one could reasonably expect that systems established in a democratic state would be more responsive and more egalitarian in terms of its sensitivity to the needs of the public as a whole, leading to a reasonable hypothesis that there will be a positive correlation between the democratic nature of a nation

under consideration and the quality of public health outcomes in that nation.[2] It is also expected that in a cross-national survey of countries, democratic countries will be more likely to have more positive public health policy outcomes than in authoritarian/non-democratic countries. In addition, given the potential significance of regime type on how and what policies are implemented, it may also be reasonable to assert that a country that becomes a democracy will exhibit significant differences in the overall quality of public health outcomes before and after democratization.

However, despite these normative assumptions which logically argue that democracies will be more likely to have better public health outcomes than other types of regimes, and that the democratic-ness of a country will be positively associated with better public health outcomes, a quick look at the data available suggests otherwise. For example, a cross-national analysis of the 2009 international dataset shows that the democratic-ness of a country, as measured by the Freedom House's political rights index and its public health outcomes, as measured by World Development Indicators, are not strongly correlated, with a spread of both excellent and dismal public health outcomes for democratic and undemocratic countries alike.[3] Furthermore, a comparison of two countries with similar state capacities and technological capabilities – South Korea and Singapore – showed that with respect to implementation of public health policies, Singapore exhibited much less variability than South Korea, where South Korea suffered from a substantial amount of variability in its public health policy outcomes, with sudden negative decreases in policy implementation rates as large as 25 percentage points over a time period of

[2] For an in-depth analysis of why it might be reasonable to assume that democracy has been, to date, considered to be beneficial for the quality of life of the general public by the academic community with substantial historical perspectives, please refer to the following paper: John Gerring, Strom C. Thacker, and Rodrigo Alfaro, "Democracy and Human Development," The Journal of Politics 74 (2012), 1-17. Additional notes on this topic have been made on this topic in the "Background and Literature Review" section.

[3] For the specific graph under consideration, please refer to the Results section under graph 3B.

two years.[4] Additionally, macro-level variable analysis of public health outcomes for Singapore and South Korea show that Singapore continues to have consistently better public health outcomes as shown by an analysis of relevant World Development Indicators, especially following South Korea's democratization process in the late 1980s.[5] This body of data appears to refute previous normative theories about the positive effect of democracy on public health – that democracy can actually have negative effects on the quality of public health outcomes. Does this mean that the theorists to date are incorrect – that claims made by some authoritarian regimes that "unbridled liberal democracy is bad for economic development, fiscal prudence, political stability, and social cohesion" may actually be correct? (Morley 1999).

In this thesis, I propose the following arguments in response to this seeming discrepancy between normative expectations and actual outcomes with respect to the effect of democracy on public health outcomes. Firstly, I argue that what matters with respect to the relationship between democracy and public health is not the specific regime type of a country at any given point in time, but more so the collective amount of democratic experiences, or exposure to democratic experiences, which exerts an effect on public health outcomes, where countries with longer histories as democracies show substantially better public health outcomes than countries with little in the way of democratic experiences. Secondly, I present evidence that the economic capacity of a state at any given time shares a robust and strong relationship with the state's public health outcomes, meaning that for short-term understandings of the quality of public health in a state, the argument does not become one of democracy against authoritarianism, but more so one of "Which state is wealthier?" Thirdly, with regards to the contrast between South Korea and Singapore, the cause of substantial variability in South Korea's public health

[4] For the specific data of interest for this claim, please refer to graph 9 in the Results section.
[5] For the specific data of interest for this claim, please refer to graphs 1A and 1B in the Results section.

outcomes does not appear to be the negative effects of democratization, per se, but more so the effect of political transitions on the governmental apparatus which affects the supply aspect of public policy implementation, as well as the impact of liberalism (or illiberalism) on how policy is implemented in a country to control demand for public goods.

To present these arguments, both quantitative and qualitative methods of analysis will be employed, with the first part of the thesis focusing on the macro level of analysis to show the relationship between democracy, exposure to democratic experiences, and public health outcomes with results from international datasets and cross-national surveys. Additional quantitative analysis will present evidence that the economic capacity of a state is a robust short-term predictor of the state's public health outcomes. The latter part of the thesis will focus on the micro level of analysis with a specific focus on understanding specific political and socio-economic differences between South Korea and Singapore. To compare these two countries, both quantitative and qualitative results will be utilized, with a focus on the historical significance of quantitative observations for South Korea. In sum, such analysis and discussion will allow for an understanding of not only global patterns of public health development, but also of specific issues that may be of relevance in the policy arena for developing countries, as well as for countries undergoing political transitions to democracies.

Operationalization

In order to perform a cross-national analysis of public health policy efficacy – that is, how well public health policy is implemented in various countries – the choice of variables had to be robust and uniform throughout the international dataset, which would be both comparative and reliable. The variables of choice had to be comparative in the sense that if one compared the levels for variable X for countries A and B, it should be possible to infer from the levels of variable X alone on whether country A or country B did a "better job" at implementing public health policy. On the same note, the variables of choice had to be valid in the sense that the logical basis for their use in measuring public health policy had to be immediately evident, with substantial literature authority and research supporting the applicability of the variables for use in a study of public health policy. To this end, the World Development Indicators (henceforth WDI) from the World Bank proved to be useful – and two specific variables were selected based on their prevalent use in existing literature on public health policy analysis. The Total Life Expectancy (henceforth TLE), according the World Bank Index is a measurement of "the number of years a newborn infant would live if prevailing patterns of mortality at the time of its birth were to stay the same throughout its life." This allows for a measurement of how the life expectancies of the population changed throughout the years for the various countries in the international dataset – and it is reasonable to assume that the greater the TLE levels in a country, the better the institutions of public policy would be with respect to areas that affect health and welfare on a large scale, ranging from educational policies to pension plans for retirees (Easterlin 2000).[6] The other variable of choice was the Infant Mortality Rate (IMR), which, according to

[6] Easterlin provides an excellent analysis of why total life expectancy is a good indicator of not only public health, but also economic and political development in general, as increases in life expectancy are accompanied by substantial developments in technology and institutions necessary to prevent disease, maintain health and welfare,

the World Bank "is the number of infants dying before reaching one year of age, per 1,000 live births in a given year." If the TLE was an indicator of how well the state manages its overall population's health and welfare through its institutions and programs, then the IMR is an indicator of how well the state manages to protect its most vulnerable population, and is generally more difficult to improve upon than TLE, especially for developing countries. As such, an analysis of the IMR allows for an observation of trends that may not necessarily be evident with just an analysis of the TLE, which can be improved upon with a variety of different policy solutions. Indeed, the IMR is generally more sensitive to changes in the public health condition of a country as it is very much dependent upon the medical and public health institutions available for support in a country, ranging from public immunization programs to the availability of trained medical professionals in obstetrics and pediatrics (McGuire 2010).[7] As such, a joint analysis of the TLE and the IMR of a country allows for both a general perspective, as well as a more public health-specific perspective, on the state of health and welfare in the country over the years.

However, using the raw data from the World Bank and the WDI database has a few problems with the issue of comparability – in the sense that while the WDI variables are comparative with respect to the units of measurement and the standards for such measurement, the raw data does not show how well the country is fairing with respect to the rest of the world. For example, a vast majority of the countries in the world have improved in their TLE and IMR readings since 1960 – but some countries, despite their improvement, are still considered

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and provide conditions amenable to not just surviving, but thriving. For further details, please refer to: Richard A. Easterlin, "The Worldwide Standard of Living Since 1800," The Journal of Economic Perspectives 14 (2000), 7-26.

[7] McGuire offers a quantitative explanation of why the IMR is a useful indicator, along with the TLE in his work, stating that changes in the IMR "do more to help identify policies, institutions, economic achievements, and social circumstances" that affect the quality of public health in a country. For further details, please refer to: James W. McGuire, Health, Wealth, and Democracy in East Asia and Latin America (New York: Cambridge University Press 2010).

deficient in their improvement. As such, some adjustments needed to be made to the variables to make it possible to see if the levels of improvement are simply "not enough." This resulted in the Difference of Means (henceforth DOM) variables for both TLE and IMR, resulting in DOM-TLE and DOM-IMR, which were both calculated in two steps. Firstly, the international average for the year and variable were calculated, adjusting for the numbers of observations, which varied from year to year. Secondly, the difference between the log of the country-specific reading and the log of the international average by year were calculated. As such:

$$\mathrm{DOM-TLE} = \mathrm{Log}\big(\mathrm{TLE\ (Country\ by\ Year)}\big) - \mathrm{Log}\left(\Sigma\big(\mathrm{TLE}_{\text{international by year}}\big)\Big/\mathrm{n}_{\text{international by year}}\right)$$

$$\mathrm{DOM-IMR} = -\mathrm{Log}\left(\Sigma\big(\mathrm{IMR}_{\text{international by year}}\big)\Big/\mathrm{n}_{\text{international by year}}\right) - \mathrm{Log}\big(\mathrm{IMR\ (Country\ by\ Year)}\big)$$

This can be reduced down to:

$$\mathrm{DOM-TLE} = \mathrm{Log}\left(\frac{\mathrm{TLE}_{\mathrm{country}}}{\mathrm{TLE}_{\mathrm{world}}}\right)$$

$$\mathrm{DOM-IMR} = \mathrm{Log}\left(\frac{\mathrm{IMR}_{\mathrm{world}}}{\mathrm{IMR}_{\mathrm{country}}}\right)$$

The reason that the specific reading for the country ends up being "divided" by the year-specific mean is one of normalizing the data. That is, by dividing the country-specific data by the international average, it is possible to assess not only the objective quality of the public health outcome (i.e. a higher TLE value is better than a lower TLE value, and so on), but also becomes a measurement that assess competitiveness for the specific country under consideration, in the sense that a country might have improving TLE readings continuously, but it may not be

improving at the rate the rest of the world is – which won't be readily evident from just a raw TLE data. However, by taking a ratio thus, the distribution becomes skewed, and unevenly distributed. To prevent this, and further normalize the scale to an easily understandable level, the log of the ratio is taken. Based on this new variable, then, maintaining the international rate of development would yield a reading of 0 for both DOM-TLE and DOM-IMR, while improving at a faster rate than the rest of the world would result in readings higher than 0, and vice versa. For DOM-IMR, the equation has essentially been switched, as the goal for IMR is to reduce overall infantile mortality, unlike TLE, where the goal is to increase overall life expectancy. By doing this, the two variables increase to show improvement in the quality of public health, while decreases show the reverse. Once again, this would allow the new variables to measure the "competitiveness" of the rate of improvement for each country, resulting in fluid cross-national comparative analyses of both the TLE and the IMR, as a logarithmic scale allows for comparisons between different datasets through one uniform (unit-less) standard measurement.

However, to introduce even more specificity and allow for detailed insight into the efficiency and the general state of public health policy implementation in a country, another WDI variable – the DPT Immunization Rate – was selected for analysis.[8] The DPT Immunization Rate (henceforth DPTIR) is a useful indicator for understanding how public health policy was implemented in a country, as one would expect such a staple portion of any good public health program to remain relatively stable and high. Thus, any variations that one might see in DPTIR are relatively significant, and if the variations are large, it is my expectation that

[8] While larger macro-social variables such as TLE and IMR provide interesting perspectives on the general state and trends across a relatively long period of time for a specific country, immunization rates provide a more micro-social level of analysis in that they are much more indicative of immediate events in the public health policy arena in that country. As such, they are much more sensitive to changes in the political or social environments that affect how public policy is implemented, whereas variables such as TLE and IMR are relatively insulated from external shocks.

there must be a larger political or social force at play that is shaping the direction of how public health policy was being implemented at the time of interest. Furthermore, DPTIR is closely related to IMR readings especially (as well as to TLE readings), since immunization programs, especially in early age help prevent premature deaths from infectious diseases – and have been shown to contribute positively, though to a lesser extent, even in adult populations. The biomedical rationale behind this is that the human immune system is not yet fully developed at birth, and the infant is largely dependent on a prophylactic transmission of antibodies from the mother for transient immunity while its own cells differentiate and develop immunity to foreign antigens. However, not all antibodies are transmitted from the mother to the infant, and not all antibodies transmitted are accepted. This means that there is a biomedical basis for introducing immunity for common infectious diseases as soon as the infant is capable of differentiating its own immune system (Tanaka et al. 2003, M'Rabet et al. 2008).[9] As such, immunization programs are critical aspects of any good public health program, as has been asserted by various organizations, including the World Health Organization, which has heavily encouraged its use as it is one of the "most cost-effective health investments" that a country can make.[10] Given this prevalence of immunization in the field of public health, then, it appeared prudent to include an analysis of DPTIR and MIR over time for both South Korea and Singapore to provide further insights into the impact of democratization and democracy on how public health policy is implemented.

[9] The main way by which transient immunity is transferred from the mother to the infant is through breast-feeding, which is why this is now highly encouraged by the medical community as a whole. For an in-depth discussion of the development of immunity in infants and the biomedical significance of immunization programs, please refer to the following: Masahiro Tanaka, Charles R. Vitek, F. Brian Pascual, Kristine M. Bisgard, Jacqueline E. Tate, and Trudy V. Murphy, "Trends in Pertussis Among Infants in the United States, 1980-1999," Journal of the American Medical Association 290 (2003), 2968-2975.

[10] For additional statements and details on WHO-approved vaccination programs, please refer to: "WHO Health Topics: Immunization," World Health Organization, last accessed April 1, 2012. http://www.who.int/topics/immunization/en/

Research Design

One idea that drives this work is as follows: *As the democratic nature of the nation rises, so will the levels of public health indicators in the nation.* South Korea provides a particularly good case study for this hypothesis, as South Korea has had several clear breaks in its history between authoritarian regimes and an eventually democratic system of government. Indeed, South Korea can be broken down into four historical stages: 1. Post-Civil War Era (1950s – 1960); 2. The Park Regime (1961-1979); 3. The Military Regime/The Chun Regime (1979-1988); 4. Democratic Governance (1988/1993 – Present).[11] The data as provided by the World Bank goes back as far as 1961, which is at the beginning of the Park Regime, and the data can be traced through until 2009-2010, allowing for observations of how transitions and democratic developments in the nation are related to developments in appropriate public health indicators. Singapore, on the other hand, will provide as sort of a control – Singapore did not, and has not yet, democratized, instead remaining a strong authoritarian regime, albeit with some more freedoms since the 1980s onwards with the so-called *third wave of democratization* that saw Taiwan, South Korea, and the Philippines hold fully democratic elections for the first time (Borthwick 2007).[12] Furthermore, Singapore has continued to exhibit an admirable rate of GDP growth, along with increases in its various quality of life indices, including those in the field of

[11] There is some argument as to whether 1988 was the first "democratic" year for South Korea, or if 1993 was the first such year, as the authoritarian regime under Chun Doo-Hwan officially stepped down and installed a civilian government in 1988, but it was not until 1993 that the first publicly recognized presidential elections were held. If one takes the latter view that democratization was achieved in 1993, the period 1988-1993 would be termed a "transition phase." For an in-depth discussion on this topic, as well as the history surrounding South Korea's democratization, please refer to: Bruce Cumings, Korea's Place in the Sun: A Modern History (New York: W.W. Norton and Company, 1997), 382-393.

[12] The "Third Wave of Democratization" was largely characterized by popular movements and a transition of the existing authoritarian structures into the current-day democratic ones, and was notable in that they were (for the most part) not outright violent. Naturally, there were very aggressive clashes between the policing forces and the anti-government groups during this time period (especially in South Korea and the Philippines), but the democratization processes did not cause any outright civil wars to break out in these countries, as they have in more recent memory, as in Syria and Libya.

public health. As such, Singapore will be the variable by which the null hypothesis – *there is no significant relationship between democracy and public health policy implementation* – will be presented. That is, the trends for the public health variables for both nations might be graphically represented, such that if the trend for South Korea exhibits a significant break away from Singapore's trend-lines, then it could be assumed that there is some relationship between democracy and public health – but if the trends appear similar, despite South Korea's democratization later on, an alternative perspective or further analysis will be necessary. And one such alternative hypothesis that will be also considered is the following: *economic indicators, and not the democratic nature of a country, are much more closely related to how public health is implemented, and how the quality of life for the general population improves.*

To test both ideas, a graphical analytical approach will be used. As described in the section for Operationalization, the two generated variables, DOM-TLE and DOM-IMR will be plotted according to time for both South Korea and Singapore to observe if any significant changes occur in South Korea between transitions between regimes and systems of governance. Based on the first theory, one would expect to observe some variations in the data for South Korea sometime between 1987 and 1993, whereas the data for Singapore should stay stable and either continue to trend upwards or stabilize at a certain point (i.e. when the public health indicator of interest can no longer improve, such as when IMR falls to near-zero levels, or when TLE reaches the maximum levels of life expectancy possible with current medical technologies). This will also be done for other countries of interest, specifically those in Asia and South America, to observe global patterns for the two variables of interest, and to see if South Korea and Singapore are relatively similar to other nations in the world in terms of how they have improved (or not) their qualities of public health policies. This will be followed by a simple

graphical analysis of DPTIR trends for both South Korea and Singapore to see if any shifts in the analysis of DOM-TLE and/or DOM-IMR might be related to shifts and patterns evident in the DPTIR over time, in addition to an analysis of the potential historical significance of any substantially noticeable trends present within the graphical representation of the DPTIR data for both countries.

Additionally, to further study the nature of the relationship between democracy and public health, data from the Freedom House and the World Bank will be used to perform regression analyses for the international dataset at several different points in time, so as to observe not only the relationship between democracy and public health at any given point in time, but to also see how the relationship between democracy and public health changes (if it changes at all) over time as well. The democratic-ness of a country will be measured by the seven-point political rights index from the Freedom House dataset, and public health outcomes will be measured by DOM-IMR with data from the World Bank. Additionally, data from the World Bank will be used to perform regression analyses for the international dataset to study the relationship between economic development and public health outcomes, with economic development being measured by the log of GDP Per Capita to account for its skew, and public health outcomes being measured by both DOM-IMR and DOM-TLE. Cross-national trends for a fifteen-nation survey (including South Korea and Singapore) will also be used to observe patterns of economic development with public health outcomes, and to see if any distinctions can be made regarding patterns of public health development between democratic and non-democratic states in this cross-national survey.

Background and Literature Review

Before proceeding with the analysis of available data, it seemed prudent to provide some background on the state of health care and public health in the two nations of interest, as well as the position of current literature on the topics at hand.

The literature analysis, then, addresses more the issue with regards to at least how we *expect* democracy to affect health care. Democracies are known to increase "human development," such that democratic tendencies are expected to increase with rising economic indicators and consequent socio-political liberalization of the populace through the presence of programs such as public education, which require a solid national economy in place (Lipset 1959). Indeed, this is corroborated by the economists' understanding that a democracy serves almost as a system for the re-distribution of resources among the social strata, whereby the needy majority receive a bulk of the public goods provided by the government (Meltzer and Richard 1981). However, more recent literature appears to challenge this notion that democracies are necessarily linked to increasing indicators for human development, and that the statistical relationships between variables for democratic indicators and indicators for public goods, including in the field of public health, are relatively weak (McGuire 2004, Ross 2006). On one level, such findings make sense, given that Singapore – one of the two nations under consideration – has exhibited robust economic growth and increased its quality of life indices for its citizens, despite its overt authoritarian regime. Another anomalous case that challenges the idea that democracy is a requisite for effective public good distribution is China, which appears to have steadily improved its standing according to trends revealed in the WDI, despite a distinctively non-democratic system of governance – or an anti-democratic system of governance, as some might say. However, the counter to this is that when one studies the patterns exhibited

by nations in Europe and consider the examples of North American nations, then the theory that democracies lead to an increase in public goods provisions seems to make sense again – after all, it is difficult to think that an authoritarian regime, which primarily concerns itself with staying in power and ensuring that the opposition (political or otherwise) does not obtain legitimacy, will keep the interest of the public at heart. After all, public goods are relatively expensive, and are a drain on the national economy; they also come at a cost for the richer members of society for a distinct benefit conferred to the less well-endowed financially, meaning that elite support for providing public goods are probably less likely in societies with a distinctively lopsided rich-poor gap, which is a characteristic that may authoritarian regimes also share (Morley 1999).[13] A more recent work by Gerring et al. provides further insight on the issue by stating that while the democratic nature of a given country at any one point in time does not significantly affect its overall likelihood to support public welfare policies, the length and duration that a nation has been a democracy appears to have a significant relationship with its likelihood to support public welfare policies, meaning that democratic tendencies really only matter across long periods of time, and may be more subtle in its effects that initially expected according to traditional theories of democratic development (Gerring et al. 2012).

On a different note, literature analysis also affords some interesting and important insights on the nature of the public health and health care systems of the individual nations under consideration. In Singapore, the predominant health care system in one that is largely privatized,

[13] What is interesting about the case of Singapore, however, is that such a rich-poor gap does not exist – or rather, the rich-poor gap is much smaller than one would expect, given the authoritarian and somewhat draconian nature of the government. In fact, one rationale given for the robust growth of Singapore and its ability to maintain its economic status alongside a non-democratic system of governance, is that the government places an emphasis on ensuring that the rich-poor gap does not grow too wide, lest the public become discontented and turn anti-regime. This has led to an increasing focus by the Singaporean government on providing high-quality public goods to all of its citizens, one of the most notable programs of which is its public housing projects. For further details, please refer to: James W. Morley, ed. Driven By Growth (New York: M.E. Sharpe, 1999), 255-274.

with only marginal governmental support, albeit with some interesting provisions – there are currently three government-endorsed systems in place, which primarily place the burden of paying for their medical care, while being remarkably affordable. The first program is called "Medisave," which is a government-based mandatory savings program, for which 6~8% of a Singaporean's income is taken out of his paycheck on a monthly basis. The idea is to save for a medical situation that will require hospitalization and intensive treatment, with strict limits on how much a patient can take out of Medisave account for any duration of medical care received (Hsiao 1995). The second program is called "Medishield," which is a government-based health insurance plan with co-pay plans and deductibles (much like an American health insurance system), where the insurance will cover a certain portion of the treatment costs for the patient, but only with bureaucratic approval of the treatment protocol. The final portion is called "Medifund," which is a safety net of sorts for those enrolled in both Medisave and Medishield, which covers the remaining portion of costs that cannot be covered by Medisave and Medishield together (Lim 2003). This system allows for a vast majority of the health care costs (through the Medisave program) to be placed on the collective of individual citizens, through a mandatory of pooling of social resources, with only minor usage of the Medishield and Medifund programs for extenuating circumstances that the government will lend aid for. This translates to roughly 25% of all health care costs being covered by public funds from the national budget, with the remaining 75% coming from "individuals" and other private sources, such as benefits provided by an employer (i.e. if an individual chose to enroll in a private health insurance plan and rescinded the Medisave and Medishield plans). This pattern of decentralization of costs is characteristic of Singapore, with emphasis on the so-called "no free lunch philosophy," which has characterized other public welfare programs, such as government subsidized housing and

public education (Lim 2003). Overall, this has allowed the government to provide high-quality public health and health care to its populace without having to spend a large portion of its budget at the same time.

Furthermore, it is interesting to note that the laws of the country effectively link a variety of public good provision programs into each other, such that there is simultaneous positive and negative incentivizing for the public to accept the policies in place. A good example of such a situation is the link between public vaccination programs and its private preschool programs. Public vaccination is provided free of charge to all children in Singapore at their polyclinics, which are health clinics run by the Singaporean Ministry of Health, thus providing a positive incentive for parents to vaccinate their children. However, there is also a negative incentive here, in that in order to enroll children in any preschool program in Singapore, proof of immunization is a requirement, such that parents who did not vaccinate their children are not allowed to send their children to any preschool programs.[14] Furthermore, parents who do not vaccinate their children are under threat of not only being fined, but also being arrested, if their actions are considered to have put the population of Singapore in danger in any way.[15] In this way, there are substantial incentives for the population of Singapore to comply with the receiving of public goods and compliance with laws that require them to follow certain stipulations, as it affects their

[14] For the entirety of the law on this provision, please refer to: "Childcare Centres Act, Chapter 37A, Section 19," Attorney General's Chambers of Singapore, last accessed March 27, 2012. http://statutes.agc.gov.sg/aol/search/display/view.w3p;query=Status%3Acurinforce%20Type%3Aact,sl%20Content%3A%22immunisation%22%20Content%3A%22vaccination%22;rec=2;resUrl=http%3A%2F%2Fstatutes.agc.gov.sg%2Faol%2Fsearch%2Fsummary%2Fresults.w3p%3Bquery%3DStatus%253Acurinforce%2520Type%253Aact,sl%2520Content%253A%2522immunisation%2522%2520Content%253A%2522vaccination%2522;whole=yes

[15] For the entirety of the law on this provision, please refer to: "Infectious Diseases Act, Chapter 137, Section 64(g)," Attorney General's Chambers of Singapore, last accessed March 27, 2012. http://statutes.agc.gov.sg/aol/search/display/view.w3p;query=Status%3Acurinforce%20Type%3Aact,sl%20Content%3A%22immunisation%22%20Content%3A%22vaccination%22;rec=0;resUrl=http%3A%2F%2Fstatutes.agc.gov.sg%2Faol%2Fsearch%2Fsummary%2Fresults.w3p%3Bquery%3DStatus%253Acurinforce%2520Type%253Aact,sl%2520Content%253A%2522immunisation%2522%2520Content%253A%2522vaccination%2522;whole=yes

receiving of other goods that are not necessarily related to the policy in question, which may not even be public goods (as in the case of preschool programs and immunization). That being said, Singapore is an interesting case, even among the authoritarian regimes, since its political ideology is largely driven by a Confucian concept espoused by PAP (People's Action Party) founder Lee Kuan Yew, which is called the concept of the "sage king." The sage king is a benevolent monarch, who wields absolute authority for the good of his people, and derives his authority from the recognition that the people give him (Chua 1995). As such, the PAP in Singapore, which is the dominant political party in the nation, provides one potential face that authoritarian regimes can take with regards to provision of public goods. Indeed, whereas democracies are expected to act normatively for the good of the public (i.e. *vox populi, vox dei*), authoritarian regimes are expected to exhibit greater variance in this regard, especially if one considers all the different kinds of authoritarian regimes, in both economically developed and undeveloped countries; indeed, kleptocratic dictatorships with no interest in public goods provision is very much a possibility as well in authoritarian regimes (Beyrer 2003). These are factors that make Singapore's case all the more intriguing for the purposes of comparative study.

South Korea, on the other hand, has a public health program that resembles the traditional Western idea of a socialized health care system much more so than Singapore's decentralized, emphasis-on-the-individual system. Called the National Health Insurance plan (NHI), South Korea's public health program has been frequently brought up by other democratic nations as an example of a program that combines humane, equal provision of services with efficiency and affordability (Wong 2004). The program focuses on providing a subsidized health insurance system which is remarkably simple – by paying taxes, all Korean citizens are enrolled automatically into the National Health Insurance plan, which then pays for a very substantial

portion of basic medical costs, from visits to a primary care physician to the costs of prescription drugs. For example, with the NHI plan, a typical visit to the doctor costs somewhere in the range of 4~5 US Dollars, and prescription drugs for a month will cost little more than ~15 US Dollars. The rest of the costs are covered through the NHI, which is managed by the Ministry of Health and Welfare. The focus of the NHI plan is on prevention – that is, there is generous coverage of minor illnesses and frequent visits to a primary care physician with ample prescription drug coverage, in addition to regular screening and medical laboratory tests – but major illnesses, such as those requiring intensive care treatment and extended hospitalization, are almost not covered at all by the NHI, such that many Koreans will opt to purchase an additional health insurance plan through a private company for the specific purpose of coverage during a medical crisis (Wong 2004). Interestingly enough, due to the same act that passed the NHI, the costs for the additional health insurance plans are kept relatively low, such that enrollment in such additional plans are not difficult financially for most members of the middle class. Furthermore, immunizations are offered free of charge to all children from birth, and booster shots and additional follow-up post-immunization are also offered free of charge at local public health clinics, called *bogeunso* (Wong 2004).[16] In this way, the NHI plan keeps the costs of health care at a minimum, while ensuring universal coverage – but that does not mean that the NHI does not have its share of problems. One notable example of hardships faced by the NHI would be the budget crisis-induced deficit in the aftermath of the Asian Financial Crisis of 1997, during which the NHI had a comprehensive deficit that was not resolved until the 2000s – preventing the

[16] However, the location of public health clinics, the large popular demand for vaccines, and fluctuations in the quality and availability of vaccines have resulted in many members of the middle- and upper-class in South Korea to seek their vaccinations and other such traditionally "public health" measures in the private sector, with implications for efficiency of policy implementation, as is seen during the data analysis for DPTIR and MIR for South Korea. An interview with parents of two older children who were in South Korea from 1990-2000 revealed this was the case – that it was "less of a hassle" to get vaccinations through the local primary care physician as he was much more easily accessible than a public health clinic, and the costs were largely subsidized by the government.

coverage of many services for a time, including specialized medical protocols and prescription medicines until the budget was balanced (Lee 2003). Furthermore, recent legislation has prevented the NHI from approving coverage for medical services that were deemed superfluous and costly – generating a demonstration and a refusal to offer services by many physicians until a temporary compromise was reached between the doctors' coalition and the Ministry of Health and Welfare. Indeed, the NHI plan is currently under a revision process to change its method of reimbursing pharmaceuticals, which will be based on econometric data of consumer spending and market demand for certain drugs over others – which may elicit a harsh response from the medical field once again (Yang et al. 2008).

However, despite the intrinsic flaws in the respective health care systems of Singapore and South Korea, it is evident that the cost to the public is evidently reduced – in the case of Singapore, by reducing the burden of having to generate a massive sum of money during a medical crisis, and in South Korea, by shifting the burden away from the consumer entirely for preventive medicine, and allowing access for additional health insurance plans for extensive coverage during medical crises. Both systems were highly supported, and still are, by majorities of citizens in both nations, and any policy agenda that seeks to modify these plans immediately become high-octane debates fueled by both political ideologies and concerns about the pragmatic result of such reforms (Lim 2003, Wong 2004). It is within this context that we can begin to think about the relationship between democracy, economic development, and public health outcomes.

Results and Analysis

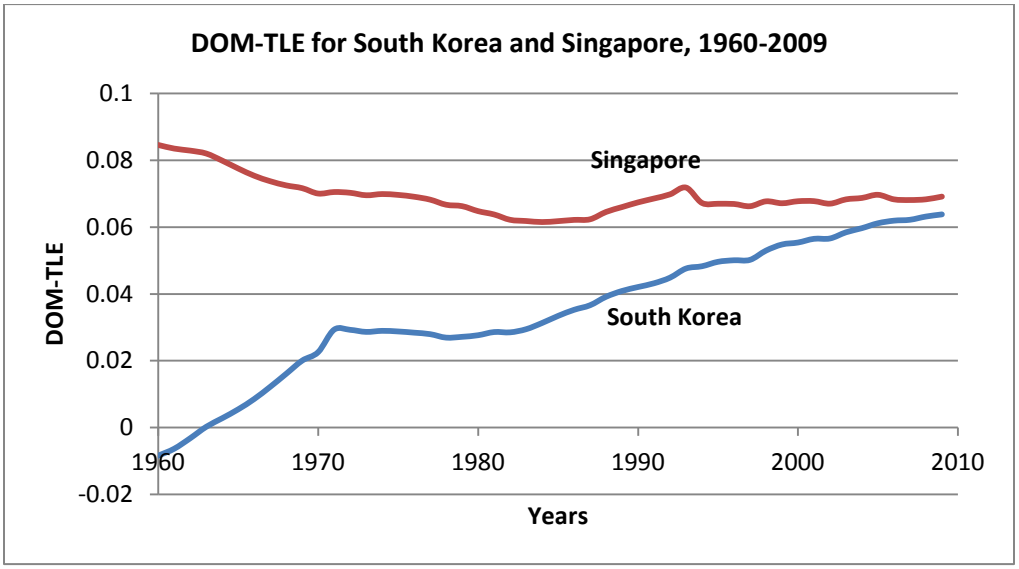
1. *The strength of the relationship between democracy and public health outcomes is moderate at best, and has been decreasing over time.*

There is a normative reason to believe that a democracy is more likely to have better public health outcomes than a non-democratic state. One such reason is the fact that the public policy agendas of democratic states are driven, to a greater or lesser extent, by public demands and opinions, as public support of the government gives the state the legitimacy to use collective resources for public goods distribution. Public health by definition is a form of a public good that the state distributes, as it focuses on providing services and products that contribute to improved health and welfare for the population, such as immunization programs and monetary support for young mothers. A non-democratic state would be less likely – especially under a kleptocratic form of the state – to provide such benefits, as its interests may simply be elsewhere. Given this assumption, one way in which we can test this hypothesis that *democracies are more likely to better public health policy outcomes than non-democratic states*, is by a comparative analysis of public health indicators that contrasts two states against each other. In this analysis, both states must be similar in terms of state capacity and economic development[17], and a graphical visualization of trends will allow us to observe if there are any noticeable differences in the way their respective public health outcomes develop over time. Two such countries that are good candidates for this comparative exercise are South Korea and Singapore. Both countries have been called "mini-dragons" of East Asia due to their explosive rates of economic growth, and are

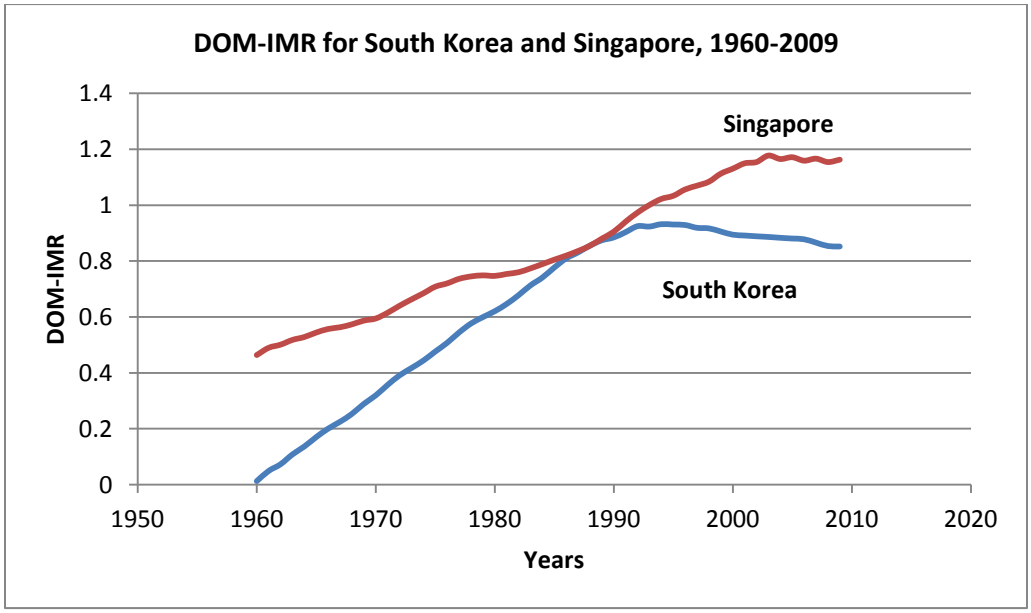
[17] By controlling for state capacity and economic development trends, it is much easier to notice any differences between the two states' records with respect to the public health indicators of interest, as a state with better economic development and a technological advantage will invariably have better public health outcomes – for example, we cannot consider Zimbabwe and the United States, despite the fact that one is democratic and the other is not, as they are simply too mismatched in terms of economic growth and technological capabilities.

well-known for having technological and state capabilities that mirror those of Western democratic states in Europe and North America (Borthwick 2007). On the surface, then, the only major difference between the two countries is that South Korea underwent democratization in 1987, whereas Singapore remains an authoritarian regime to this day. As such, when the two countries' records of public health outcomes are visualized, the following trends emerge:

Graph 1A: DOM-TLE for South Korea and Singapore, 1960-2009, Source: World Bank



Graph 1B: DOM-IMR for South Korea and Singapore, 1960-2009, Source: World Bank



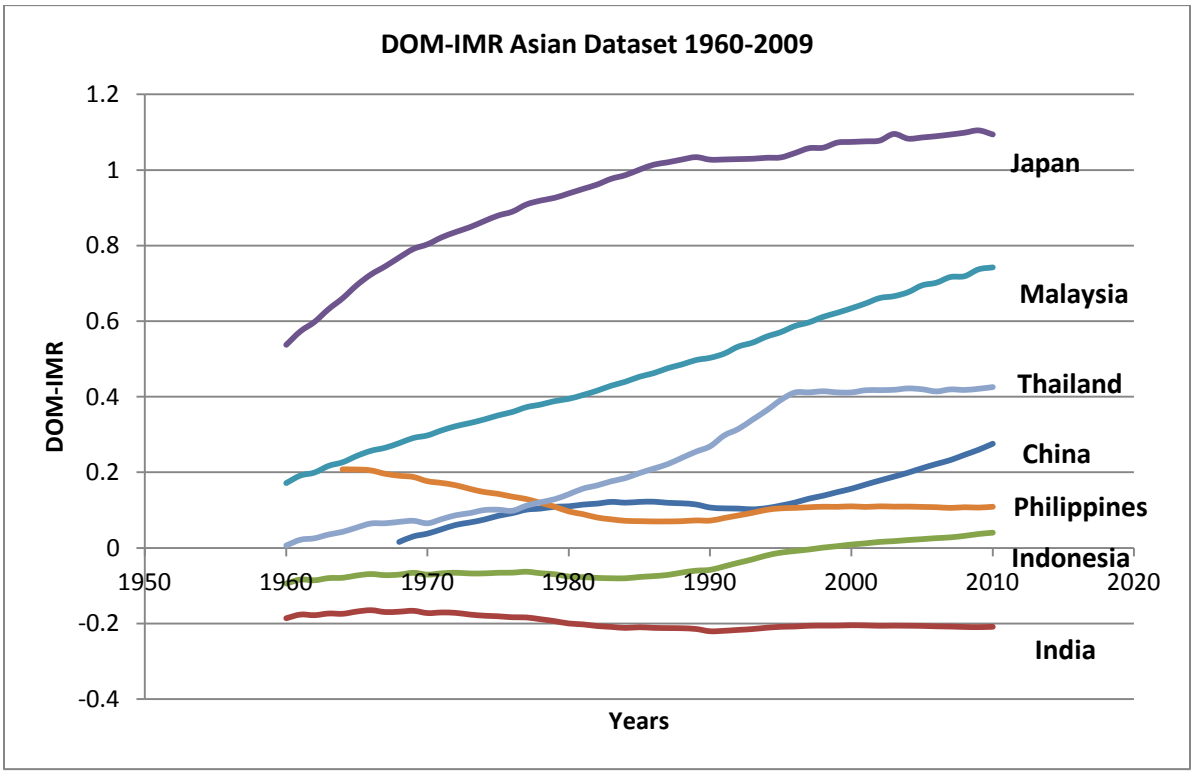
An interesting trend to note from the graphs is that while the IMR and TLE levels for both countries have been reporting sustained improvement – with decreases in IMR and increases in TLE – the comparative index generated in the form of DOM-IMR and DOM-TLE show a slightly different picture. With regards to the DOM-TLE, it appears that South Korea has indeed been continuously improving, save for the 1970s, during which the DOM-TLE appears to be relatively stable. Singapore, on the other hand, appears to have a slightly downward trend in its DOM-TLE levels for the first two or three decades of record, before increasing somewhat and stabilizing after 1990. This does not mean that Singapore has been suffering reductions in the quality of its public health – rather, it is much more likely that since Singapore's TLE readings were so high from the outset in 1960, its rate of improvement – which is capped by how long people can live biologically, as well as by the technological constraints of the times – was lower than that of other nations, such as South Korea, which had little difficulty in improving its TLE levels given how low they were to begin with. Indeed, it is striking to note that South Korea still has not yet "caught up" to Singapore in terms of TLE as of 2009, despite its industrialization and massive improvements in the quality of medical care available in the nation since 1960.

Regarding the DOM-IMR, it is interesting to note that South Korea's DOM-IMR appears to be decreasing after 1993, while Singapore's DOM-IMR levels continue to increase until approximately 2005, at which point it appears to stabilize. Once again, these results do not necessarily mean that the quality of preventive policies for Infantile Mortality in South Korea have decreased – it may very well be that South Korea has hit its limit in terms of the available technology, or that South Koreans are somehow biologically constrained with genetic conditions that predispose them to a certain number of infantile mortalities every year even with the best available medical care; another explanation may be that the IMR levels are so close to zero that

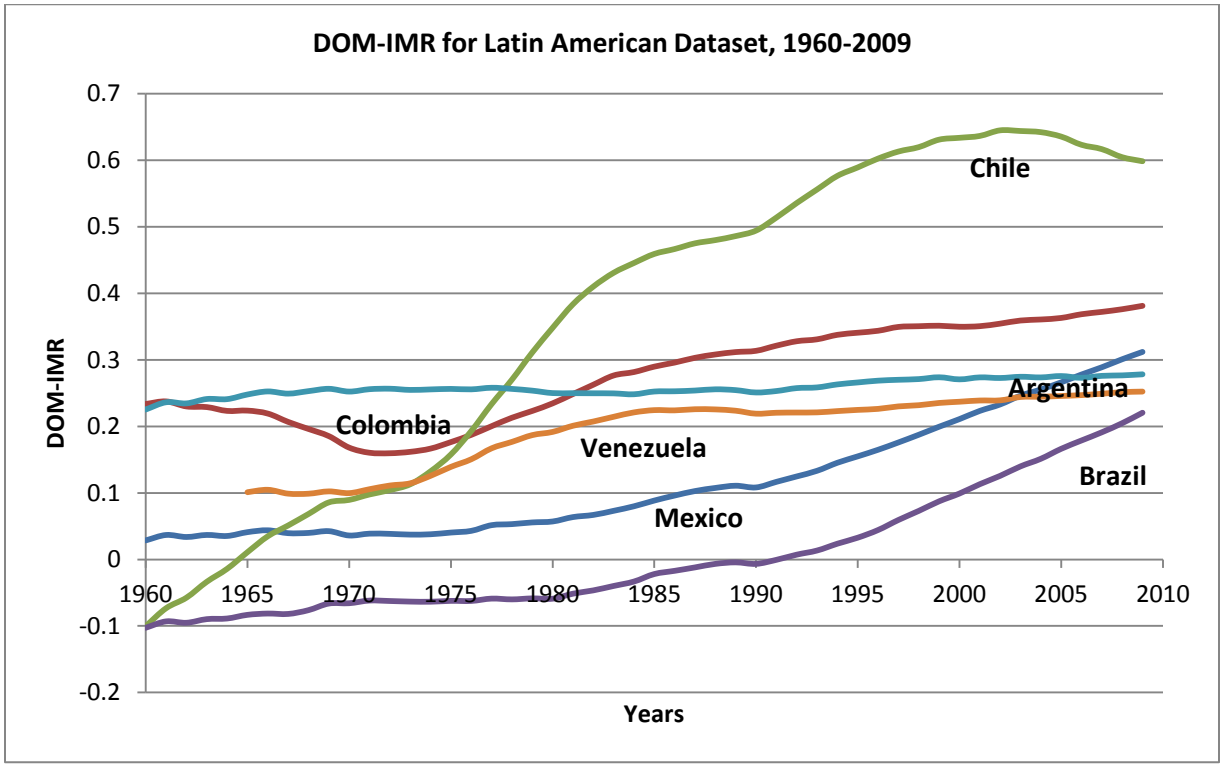
further improvement is impossible. However, given the similar demographics and levels of technology in Singapore and South Korea, as well as the continued increase in the DOM-IMR index for Singapore, it may very well be that the decrease in DOM-IMR in South Korea is hinting at specific policy differences between South Korea and Singapore that only affect infants (or affect infants far more than the rest of the population), as the DOM-TLE and TLE levels would suggest that South Korea has been continuously improving its public health situation.

From this comparative exercise, it appears that there are very few differences between South Korea and Singapore that can be outright attributed to the fact that South Korea democratized in 1987. This becomes more apparent when one considers the overall pattern in the raw data for IMR and TLE for the two nations, which are very stable and sustained for the entirety of the 40 years that the dataset covers. As such, another exercise that was performed at this point was an expansion of the dataset. 13 additional countries from Latin America and Asia were chosen to see if the trends that South Korea and Singapore exhibited were abnormal with respect to the rest of the international dataset, and the DOM-IMR readings for these countries were graphically visualized for comparative purposes. Furthermore, an effort was made to incorporate both democratic and non-democratic states in the 13-state dataset to see if a clear distinction might be made in the patterns of public health outcomes between the democratic and non-democratic states. The following graphs present the DOM-IMR for the Latin American and Asian datasets:

Graph 2A: DOM-IMR for Asian Dataset, 1960-2009, Source: World Bank



Graph 2B: DOM-IMR for Latin American Dataset, 1960-2009, Source: World Bank



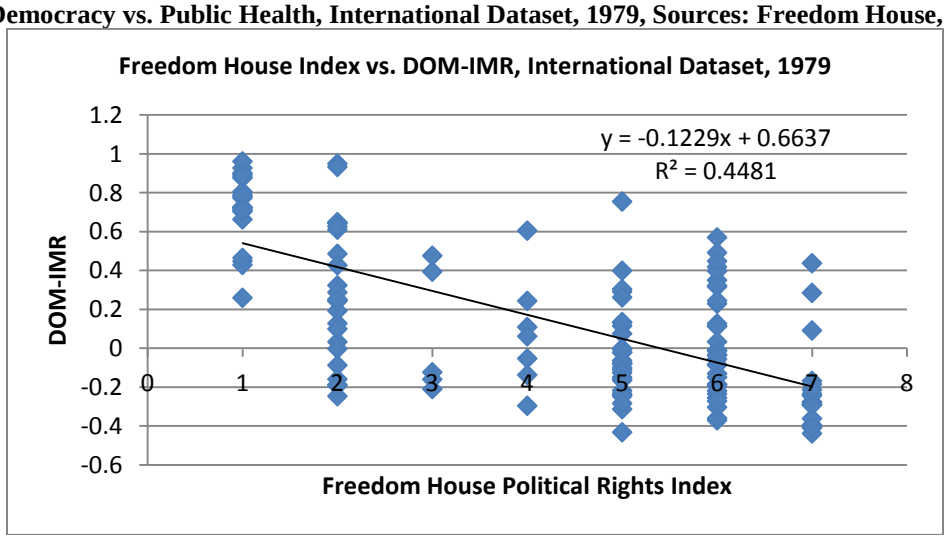
This exercise showed then, that irrespective of regime type, all of the countries involved exhibited the same pattern – that of improvement in the DOM-IMR readings over a 40-year period. In fact, the initial hypothesis of "democracies have better public health outcomes" appears much weaker when we consider some of the non-democratic cases in the additional dataset presented here, such as Malaysia and China, which clearly exhibit improvements in the quality of their public health outcomes, as compared to democratized countries such as India, the Philippines, and Argentina providing rather bleak pictures on the capacity of the democratic state to improve the quality of their public health outcomes. Thus, it appears that the overall trend towards improvement of public health outcomes is not an uncommon one, such that South Korea and Singapore do not appear to be anomalies in this regard.

However, one fact that is rather abnormal is the rate of public health outcome improvements that South Korea and Singapore present. When one observes the rates of improvement in DOM-IMR for the 13 additional countries under consideration, South Korea and Singapore's DOM-IMR records appear phenomenal – South Korea manages to improve from its initial DOM-IMR reading of 0 to slightly higher than 0.9 at its peak in 1993, and Singapore manages to improve from its initial DOM-IMR reading of approximately 0.5 to almost 1.2 at its peak in 2003. Most of the countries in the expanded international dataset improve at a much reduced rate than this, with a few notable exceptions, such as Japan, Malaysia and Chile.

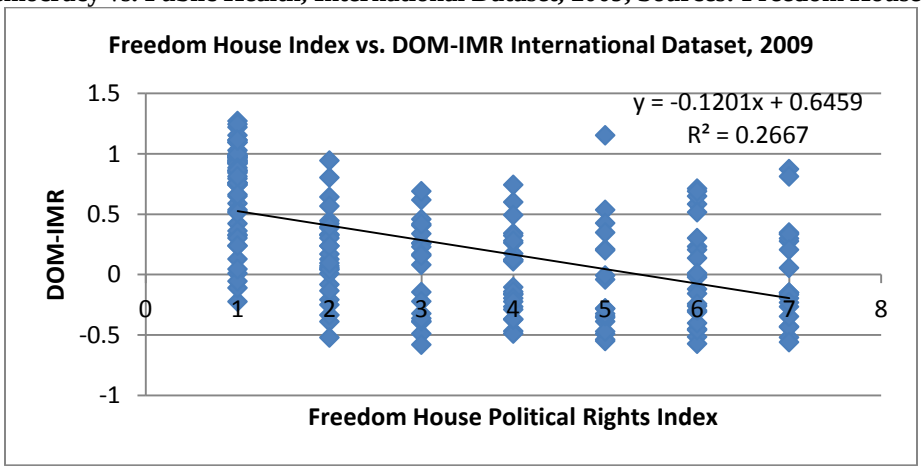
The data so far does not present a compelling argument for the initial hypothesis. However, one potential issue with these comparative visualizations of specific countries over time is that of selection bias – for example, the trend might very well be different once one considers the entirety of the international dataset and observe the relationship between the democratic-ness of a country and their respective public health outcomes. As such, to observe if

there was a difference, a regression analysis was performed that analyzed the relationship between the Freedom House Political Rights Index and DOM-IMR for individual countries in 1979 (which is the earliest date that that Freedom House has data available), 1989, 1999, and 2009. This cross-sectional analysis allows for a visualization of not only the relationship between democracy and public health outcomes, but also how this relationship changes and develops over time. As such, below are presented three graphs – the dataset from 1979, 2009, and a summary graph presenting the trend in the strength of the relationship between democracy and public health outcomes.

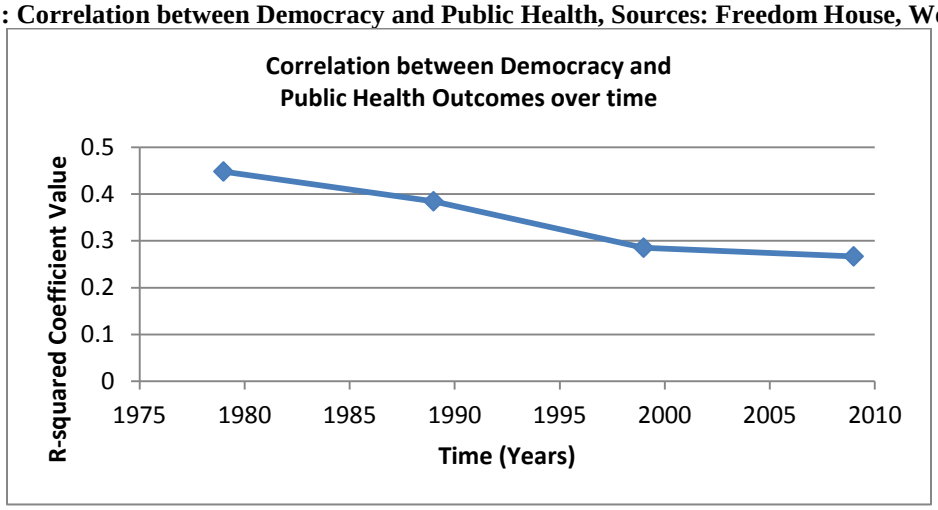
Graph 3A: Democracy vs. Public Health, International Dataset, 1979, Sources: Freedom House, World Bank



Graph 3B: Democracy vs. Public Health, International Dataset, 2009, Sources: Freedom House, World Bank



Graph 3C: Correlation between Democracy and Public Health, Sources: Freedom House, World Bank

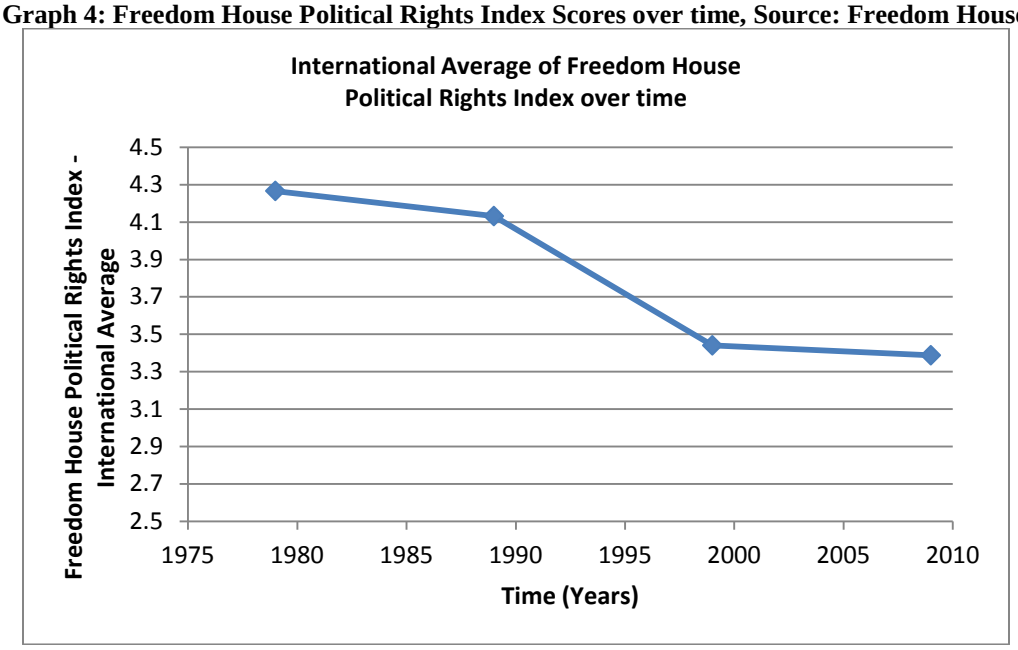


The trend that emerges here is striking, and there are two conclusions that can be made here: 1) the relationship between democracy and public health is relatively weak, and 2) the strength of the relationship between democracy and public health decrease over time. Even at its highest in 1979, the strength of the relationship between democracy and public health is moderate, with a R^2 value of 0.4481. This can be understood to mean that approximately 45% of the variability in the data for public health outcomes (DOM-IMR) can be explained by the distribution of the Freedom House Political Rights Index – that the democratic-ness of a country explains a little less than half of its public health outcomes in 1979. However, in 2009, the strength of the relationship is even lower, with a R^2 value of 0.2667. This means that the democratic-ness of a country can explain a little less than 27% of public health outcomes in the international dataset. Furthermore, there is a definite trend, whereby the strength of the relationship between democracy and public health outcomes is decreasing over time, as shown in Graph 3C. It is evident that 1979 and 2009 were not merely anomalies with exceptionally high or low readings – rather, they are part of a trend that is continuous and on-going.

So what might explain this decrease in the strength of the relationship between democracy and public health? McGuire, as well as Gerring et al., propose convincing arguments

for why this is. McGuire states in his work that "long-term democratic experience… was associated with more widespread provision and utilization of mortality-reducing basic social services." That is, the longer a country had been a democracy, the more likely it was to have institutions and programs that would support improvements with regards to infant mortality rates (McGuire 2010). Gerring et al. argue in a similar fashion that "there is no strong or robust relationship between a country's current regime type and its subsequent human development, as measured by infant mortality rates… However, we argue that a robust causal relationship does appear if democracy is considered as a long-run, historical phenomenon" (Gerring et al. 2012). Given these arguments, one potential explanation for the reduction in the strength of the relationship between democracy and public health is the emergence of new, young democracies in the latter part of the 20th century and early 21st century. This would mean that due to these new democracies would not be expected to show radical improvements in the quality of their public health outcomes, while still contributing to the dataset as democratic states, meaning that the more recent data would who a wider distribution of public health outcomes for the more democratic states as a whole, with an overall reduction in the Freedom House's Political Rights Index scores (where a 1 corresponds to the highest level of democratic freedom). This is shown to be case:

Graph 4: Freedom House Political Rights Index Scores over time, Source: Freedom House

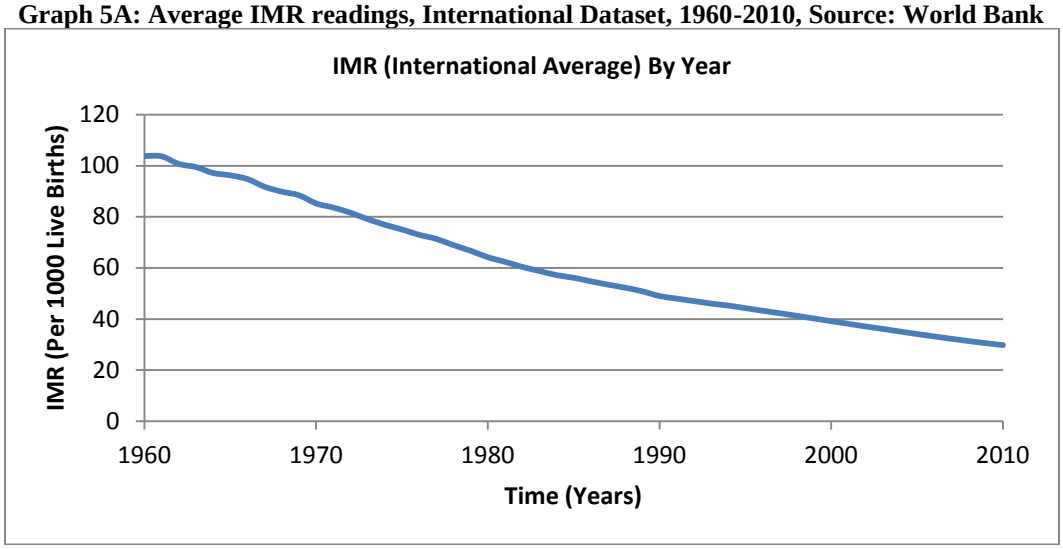


The emerging picture, then, asks the following question: If democracy does not stably explain trends in public health outcome improvement on the short-term, what other variables do?

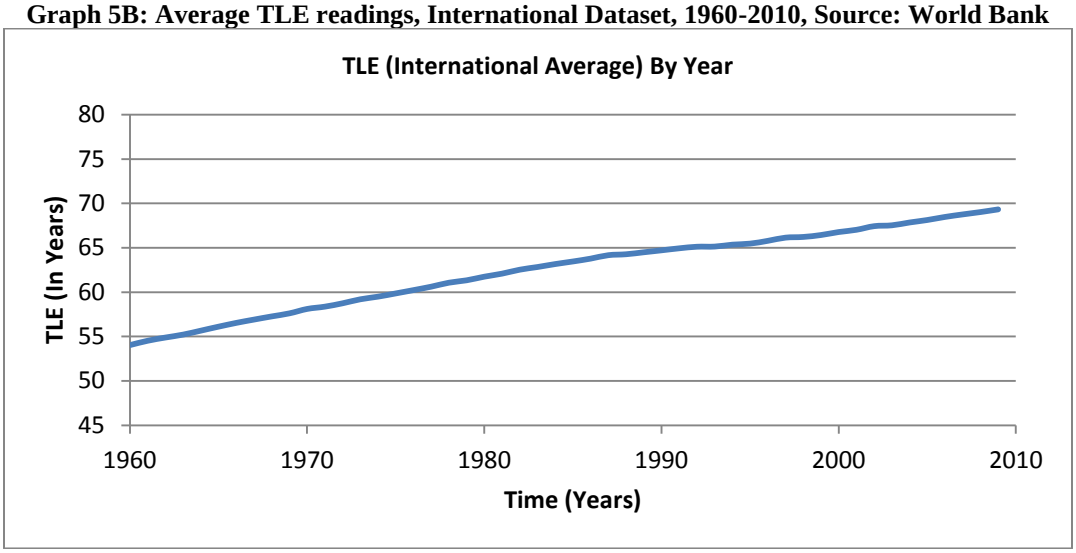
2. *The relationship between economic development and public health outcomes is robust, stable, and sustained over time.*

In the previous section, we saw that democracy only had, at best, a moderately strong relationship with public health outcomes, and that it did not adequately explain public health outcomes are more countries democratized and became ostensibly freer in the latter part of the 20th century. However, the fact is that public health outcomes have been improving steadily over time for not only specific countries such as South Korea and Singapore, but also for the international community as a whole. This can be easily demonstrated by a simple visualization of the average IMR and TLE for the international dataset from 1960 to present:

Graph 5A: Average IMR readings, International Dataset, 1960-2010, Source: World Bank



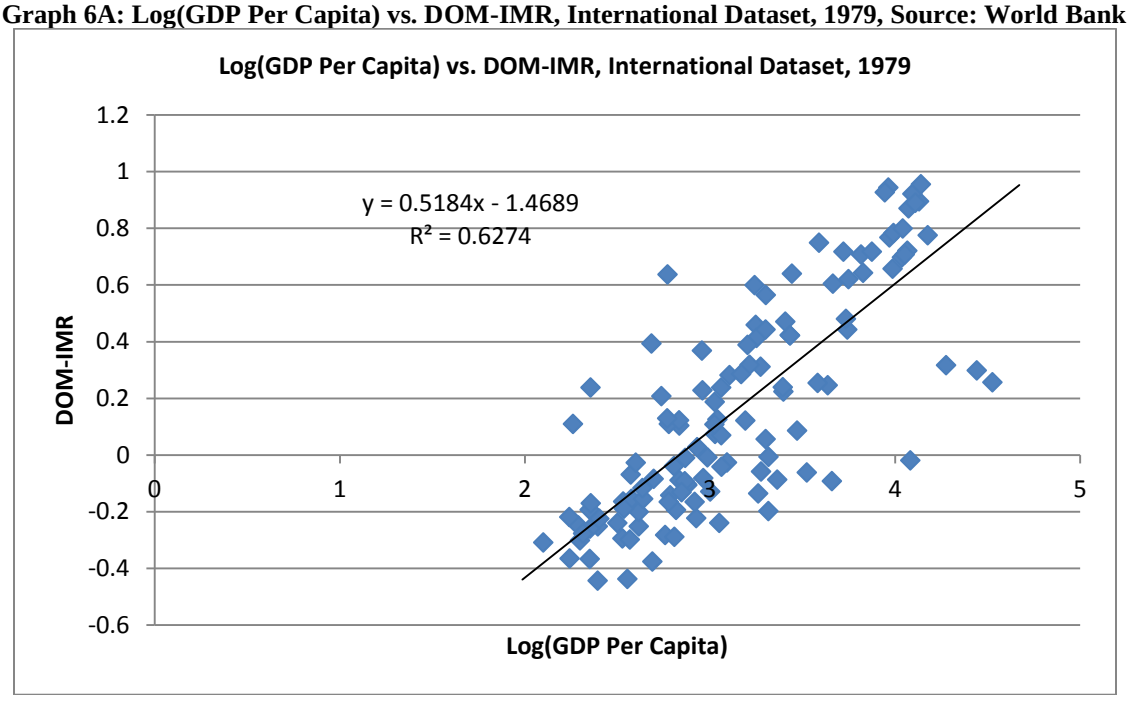
Graph 5B: Average TLE readings, International Dataset, 1960-2010, Source: World Bank



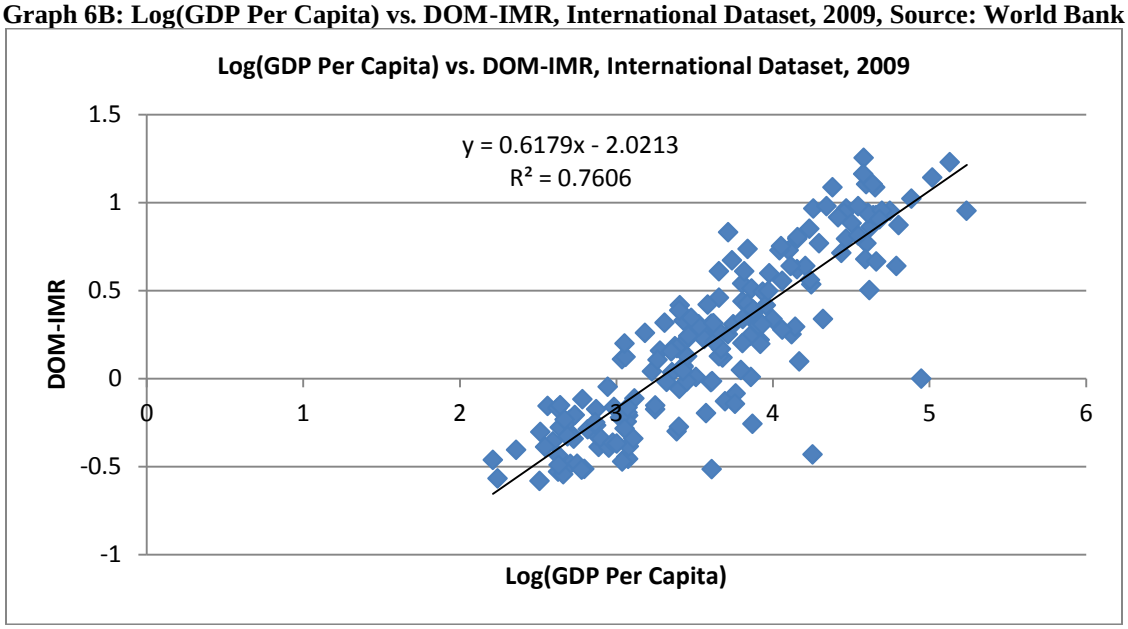
From these two graphs, it becomes readily evident that IMR has been decreasing, and TLE has been increasing at a very steady rate for the past fifty years. As such, there must be another variable that explains – at least on the short-term – rates of improvement and public health outcomes in a stable fashion over time. A candidate variable for this is economic development. There is a normative explanation for why increases in the economy of a country might result in better public health outcomes; with increased economic standards, the population in general is

more likely to have funds and resources available to spend on taking better care of themselves on a personal level, and the state – which may have been reluctant to offer public goods in the past – is more likely to offer such public goods if it is confident in its economic capacity to sustain efforts in this arena (Mosley and Chen 1984). McGuire agrees with this assumption, and explains that increases in a state's economic capacity "was found to have a strong, significant, and robust association with lower infant mortality" (McGuire 2010). As such, data from 1979, 1989, 1999, and 2009 were analyzed to see the relationship between GDP Per Capita and DOM-IMR of individual nations in the international dataset. Below are presented the data from 1979 and 2009, as well as a summary of the trends in the strength of the relationship between economic capacity and public health outcomes.

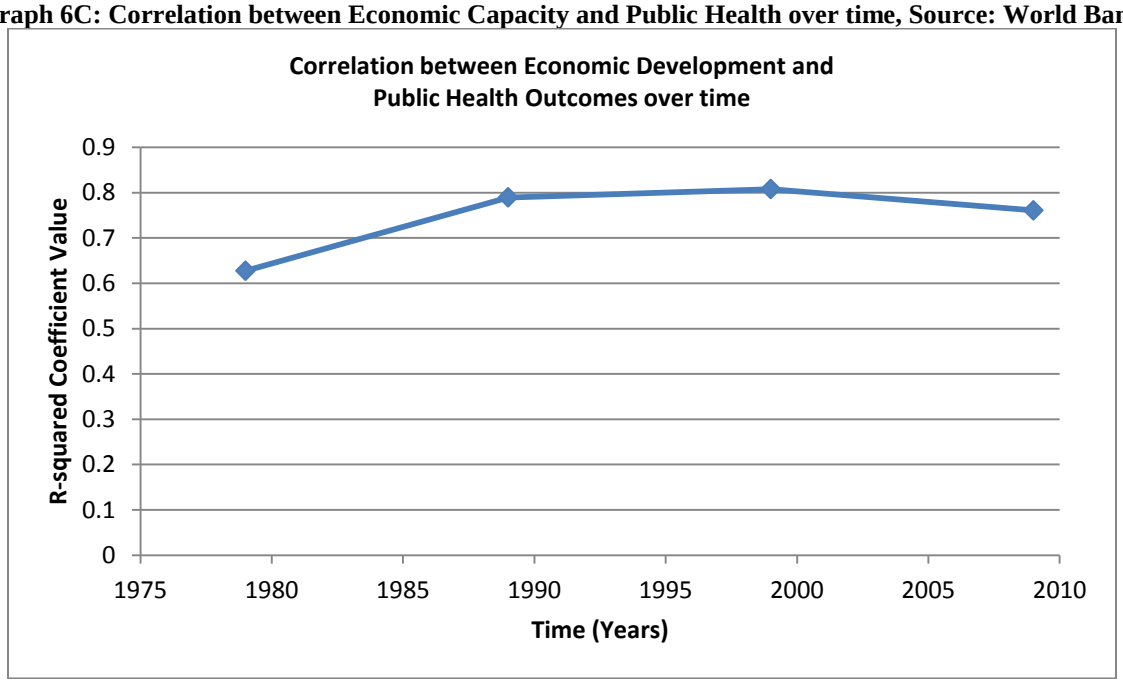
Graph 6A: Log(GDP Per Capita) vs. DOM-IMR, International Dataset, 1979, Source: World Bank



Graph 6B: Log(GDP Per Capita) vs. DOM-IMR, International Dataset, 2009, Source: World Bank



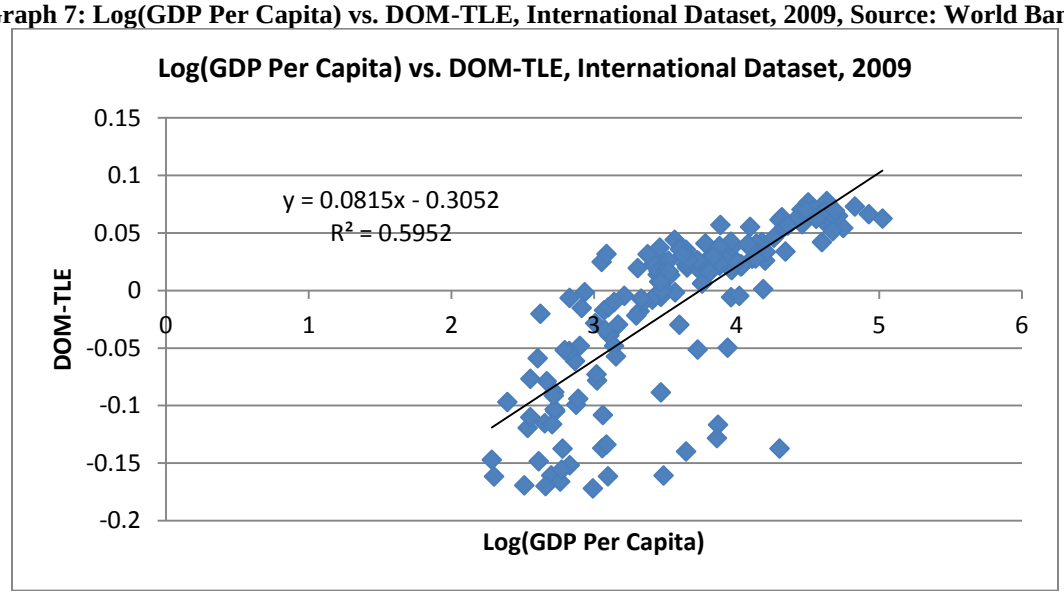
Graph 6C: Correlation between Economic Capacity and Public Health over time, Source: World Bank



From the data presented, it appears that the relationship between the Log of GDP Per Capita and DOM-IMR is robust and sustained over time, with an increase in the strength of the relationship between 1979 and 1989, but remaining at the 1989 levels from that point onwards. In 1979, the economic capacity of a state accounted for approximately 63% of the variability in the data for

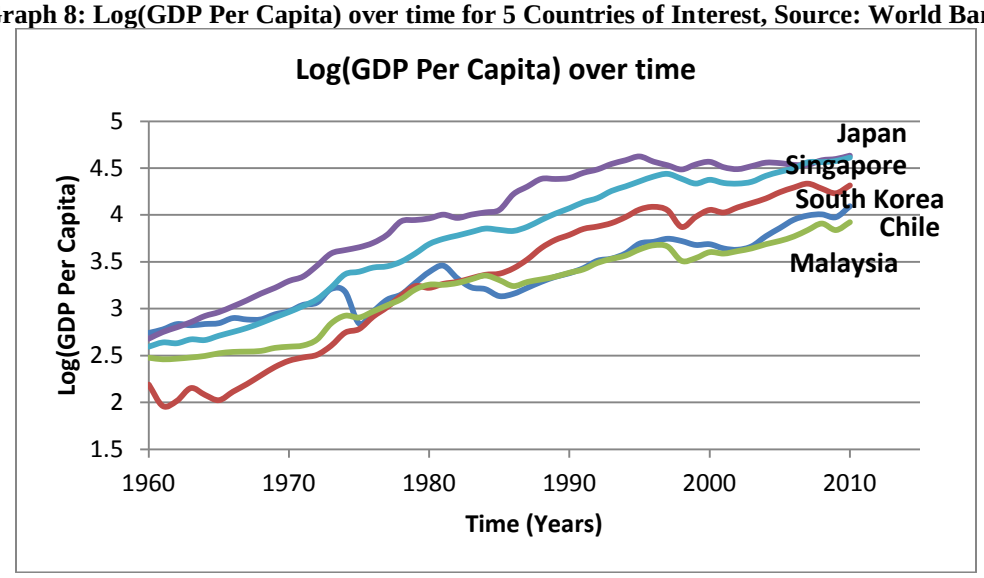
public health outcomes, with a R^2 value of 0.6274, whereas in 2009, the economic capacity of a state accounted for more than three-quarters of the variability in the DOM-IMR distribution, with a R^2 value of 0.7606. The case for the relationship between economic capacity and public health outcomes grows stronger when an alternative public health indicator is used – and the relationship remains relatively stable regardless.

Graph 7: Log(GDP Per Capita) vs. DOM-TLE, International Dataset, 2009, Source: World Bank



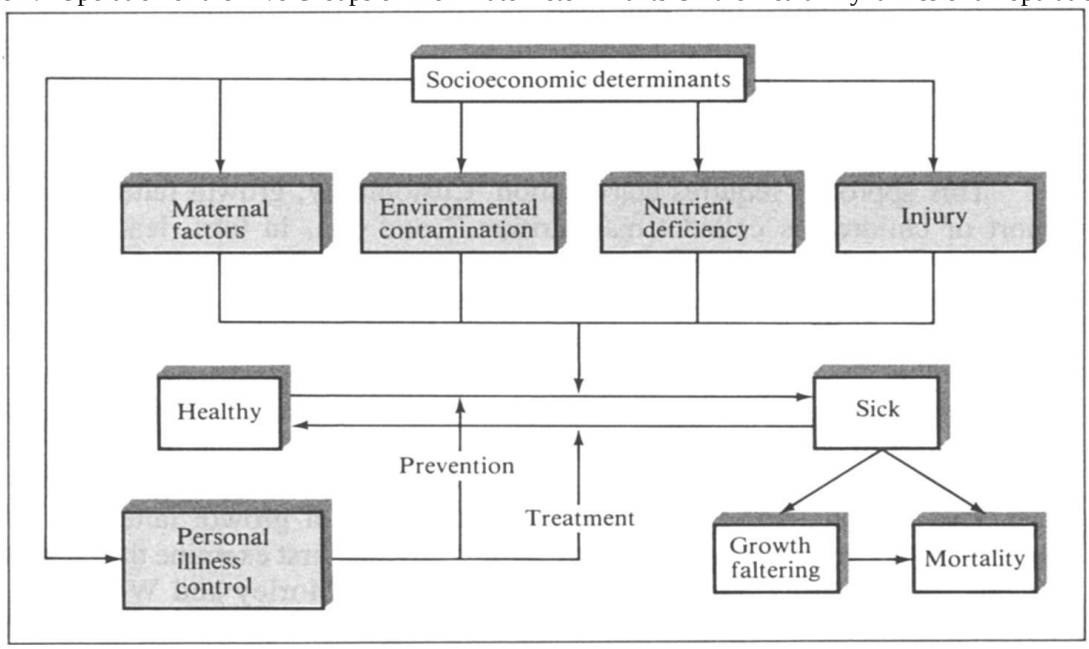
Despite presenting a slightly weaker relationship here, the correlation coefficient shows that economic capacity accounts for at least 60% of the variability in the data for DOM-TLE in 2009. The case grows stronger when we consider the five countries among the fifteen considered in the previous section that exhibited remarkable rates of public health improvement – South Korea, Singapore, Japan, Malaysia, and Chile. All five countries exhibit very high rates of economic growth from 1960, which is continuous and sustained.

Graph 8: Log(GDP Per Capita) over time for 5 Countries of Interest, Source: World Bank



The data available, then, suggest very strongly that the relationship between economic development and improvements in the quality of public health outcomes is most definitely robust. The relationship is consistent through several cross-sectional analyses from different time periods, and is consistent throughout the diversity of an international dataset. The normative assumptions that give credence to this hypothesis are also strongly supported by literature sources. For example, Pritchett and Summers published a paper with the title of "Wealthier is Healthier," where their main claim is that "increases in a country's income will tend to raise health status," with the additional claim that their "use of instrumental variables" allowed them to "comfortably assert that the income-mortality relationship is not an artifact of reverse causation or incidental association… the… results provide strong evidence in favor of a causal and structural relationship running from income to mortality" (Pritchett and Summers 1996). McGuire presents a modified schematic from a work by Mosley and Chen to elaborate on this relationship between economic capacity and public health outcomes, and provide a model for how higher economic capacity/income would explain a healthier population.

Figure 1: "Operation of the Five Groups of Proximate Determinants On the Health Dynamics of a Population"[18]



The argument by Mosley and Chen is that "socioeconomic determinants" are at the very top, and can be divided into "proximate determinants" that more or less directly affect public health outcomes, resulting in the health and illness of the country under consideration. If the equilibrium shifts too far in the "sick" direction, then "Growth faltering and "Mortality" will occur (Mosley and Chen 1984). McGuire further explains that "the provision and utilization of basic social services was associated with lower infant mortality," such that "one standard deviation rise in GDP per capita is found in the analyses… to "reduce" infant mortality, statistically speaking, more than a one standard deviation rise in any of the social service variables" (McGuire 2010). That is, with economic growth, the state has the capacity to offer more programs and policy measures that encourage positive public health outcomes, which fall into one of five broad categories, which ultimately contribute to the overall health-sick balance

[18] For an in-depth discussion of this figure, please refer to: Mosley, W. Henry and Lincoln C. Chen. "An Analytical Framework for the Study of Child Survival in Developing Countries." Population and Development Review 10 (1984): 25-45.

of the nation as a whole. This is in line with the quantitative observations made, where the economic capacity of the state, represented by the log of the GDP Per Capita was strongly correlated with better public health outcomes, in terms of both DOM-IMR and DOM-TLE.

As such, the current conclusions that can be drawn are as follow. The relationship between democracy and public health outcomes in a cross-sectional perspective is moderate at best, with the strength of the relationship decreasing over time, due to more countries democratizing, without consummate increases in the quality of their public health outcomes. This is in line with the observations made by McGuire and Gerring et al., that the relationship between democracy and public health only becomes significant with long-term exposure to democratic experiences, which explains the steadily decreasing average score of the Freedom House Political Rights index, without the initially expected increases in DOM-IMR levels (McGuire 2010, Gerring et al. 2012). A variable that better explains public health outcomes in both short-term cross-sectional analyses and over time is the economic capacity and growth of the state under consideration. The data shows that the relationship between the log of GDP Per Capita and DOM-IMR remains relatively stable over time after a small gain between 1979 and 1989, and that countries that were seen to have significant improvements in the quality of their public health outcomes in the initial 15-country cross-national survey, also had significant levels of improvement with respect to their economic capacities.

However, the fact remains that transitions to different regime types is still expected to have some bearing on how public policy is implemented, in addition to what types of public policy are implemented, such that the data and the explanations so far do not adequately address the issue of how a short-term democratic experience, such as becoming a democratic state from an authoritarian one, affects public health in general. To do this, a micro-level of analysis was

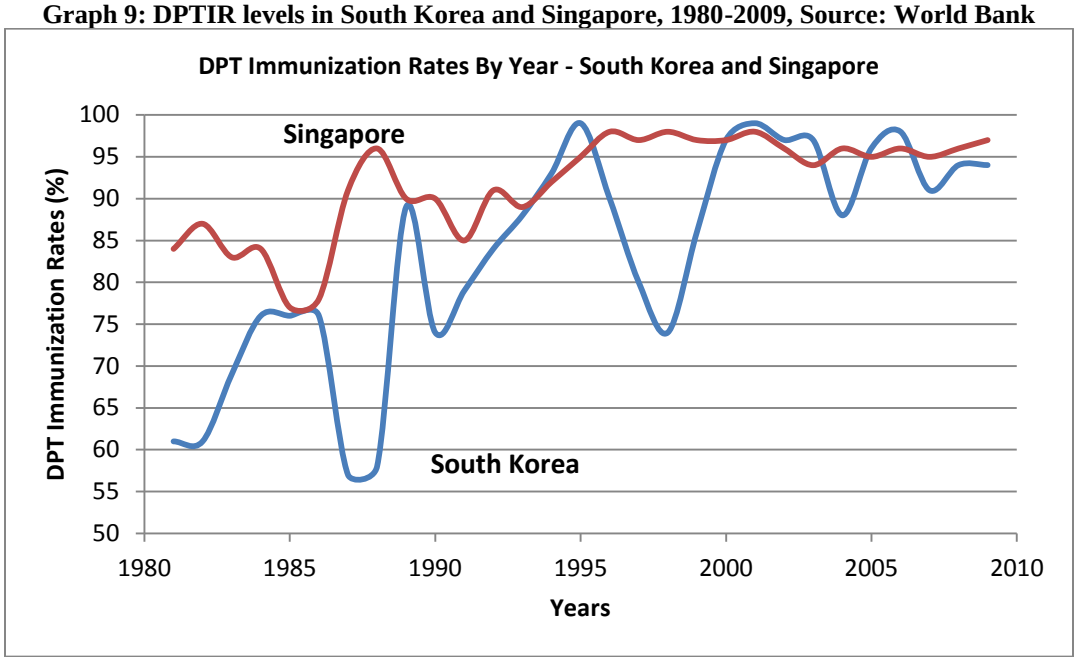
required. One suitable method of analysis, then, was the graphical analysis of the DPT (Diphtheria, Pertussis, and Tetanus) immunization rates in South Korea and Singapore over time to see if there were changes in the pattern of immunization rates, and if any specific trends within the data might point towards significant political and social events for both Singapore and South Korea. Once again, South Korea and Singapore provided for two good case studies for comparative purposes, due to their many similarities in technological and economic capabilities, with the one major difference being that South Korea democratized in 1987, whereas Singapore did not. The finding from this analysis was striking.

3. *Transition effects and liberalism account for major differences in modes of policy implementation between South Korea, a young democratic state, and Singapore, an authoritarian regime.*

The results so far suggest that regime type and democratization itself plays a very minimal role, or at best, a moderate role, in how public health policy outcomes are shaped. This may be true on the macro level of analysis, where the focus is on general trends. On the other hand, it would be foolhardy to state that transitions from authoritarianism to democracy and differences in political attitudes have no bearing whatsoever on how public health outcomes result. As such, a micro level of analysis is necessary to see if the short-term experience of becoming a democracy or being a democracy has any substantial effects on the implementation of specific public health programs, which may very well carry over into the macro level of analysis at least in part. As such, the DPTIR for South Korea and Singapore from 1980 onwards was visualized to observe if there were any striking differences between the DPTIR records for

the two countries. Of particular interest were significant increases or decreases in the DPTIR levels.

Graph 9: DPTIR levels in South Korea and Singapore, 1980-2009, Source: World Bank



From graph 9, it becomes readily evident that South Korea is much more variable in the rate of compliance among its population as far as the DPT vaccine is concerned. For example, the biggest single decrease in DPTIR for Singapore is approximately 10%, prior to the 1990s, with stabilization occurring after 1995 such that the DPTIR readings fluctuate mildly between 98% and 95%, which are well above WHO recommendations for minimally acceptable levels of immunization.[19] However, South Korea suffers from rapid fluctuations in its DPTIR readings, with the decreases as large as 25% between two consecutive years. Furthermore, it is intriguing to note that all the major decreases in DPTIR occur around the time of major social and political events in South Korea. The following table summarizes the four biggest drops in DPTIR for

[19] The Global Immunization Vision and Strategy for the World Health Organization states that their aims are for all countries to have 90% coverage of their respective populations by 2015 as the minimally acceptable goal as part of the Millennium Development Goals Initiative that the UN is promoting. For more information, please refer to: http://whqlibdoc.who.int/hq/2005/WHO_IVB_05.05.pdf

South Korea by date with corresponding information about the accompanying socio-political event of note.

Table 1: Corresponding Socio-Political Events to "Dips" in the South Korea Dataset in Graphs 12C and 12A

Years	***Political/Economic Event of Significance***
1987-1988	Democratic Transition from the Authoritarian regime under President Chun Doo-Hwan and a military-dominated government; 1987 in particular was characterized by public displays of discontent against the regime in violent protests across the nation.
1991-1993	In the aftermath of the successfully democratization movement in 1987-1988, the South Korean government underwent several shifts in its power structure, the culmination of which was the radical reform laws that President Roh Tae-Woo passed soon after his election in 1992, resulting in a vast restructuring of the autocratic bureaucracy and transfer of a great deal of political power to the executive and legislative branches of the national government.
1997-1998	The Asian Financial Crisis – As has been well studied and characterized, the AFC almost brought the South Korean economy to its knees, and indeed, even the intervention by the IMF ended up hurting the national economy more than aiding it, resulting in mass discontent and calls for better management of government.
2004	The Impeachment of President Roh Moo-Hyun – President Roh was a highly controversial character who ran on a platform espousing governmental support for the commoner, but became quickly embroiled in a variety of scandals concerning misallocation of public funds, which resulted in his impeachment trials in 2004 – the first time such an event occurred in South Korea political history. The potential for the ouster of President Roh also resulted in yet another massive shift among the rank-and-file of the bureaucracy, especially among the politically appointed positions.

With this perspective, it becomes possible to think of two potential rationales for why South Korea was so susceptible to fluctuations in its DPTIR. Indeed, such large swings in immunization rates are considered to be highly detrimental to the overall public health efforts in any nation, given the importance and prominence of immunization as a cost-effective tool in the field of public health. As such, one potential explanation is that of institutional failure; that the institutions for public health in South Korea effectively failed during various crises due to political and economic pressure exerted on them. This explanation focuses on the supply-side of the system for public good provisions – and this makes some sense. In 1987, the democratization movements resulted in a drastic change in the structure and form of the Korean government as a whole from a military-led authoritarian regime to a civil-society driven democratic system. Some scholars of Korea argue that actual democratization did not take place until 1992, when Roh Tae-

Woo came into power with the first publicly acknowledged free elections (Lee 1993).[20] Furthermore, Roh Tae-Woo's presidency was characterized by his series of Administrative Procedural Reform Acts, which radically restructured the bureaucracy, and transferred the majority of the policy-making power to the Presidency, and to a lesser extent, to the National Assembly (Baum 2007). It is not difficult to imagine how the Asian Financial Crisis would negatively impact the work of any government – and with 2004, political shifts occurring due to major scandals – especially if it meant personnel transfers – would also negatively impact public health policy implementation. Thus, all four of the major drops in DPTIR can be somewhat explained by the work of the government in providing the vaccines and the professional staff necessary to administer such vaccines – and their failure to do so during social, political, and economic crises that negatively affect the structural integrity of public health programs.

However, given the importance of immunization in public health, it is difficult to imagine that South Korea, with its industrialized economy, its educated population, and the robustness of its governmental structure – which had weathered similar crises in the past, such as the assassination of President Park Chung-Hee – it is difficult to imagine a systemic collapse severe enough that a 25 percentage point decrease in DPTIR occurs over a period of 2 years. Furthermore, with the privatization of most of the South Korean health system with the National Health Insurance Act – and the subsequent lessening of significance of public health clinics for the vast majority of the public – it is clear that there must be some kind of demand-driven model which explains the decreases in Korea's DPTIR along with the first supply-driven explanation. Furthermore, Singapore's relative successes in maintaining its DPTIR levels – albeit with some

[20] In his work, Lee argues that even with the 1987 democratization movements, the authoritarian regime was still in place until the 1992 elections, and states that "Stakes were particularly high [during 1992] because of the general consensus that the ROK is poised to end authoritarian rule…"

fluctuation – may point towards fundamental differences in political and policy structures between South Korea and Singapore that elucidate how public health policy implementation works in East Asia – which also has implications for understanding how public health might be implemented with efficiency in other developing countries without a fully established public health system.

A further discussion of this issue seems prudent here. When one considers the DPT immunization rates for South Korea and Singapore from 1980-2009, it becomes readily evident that South Korea appears to have had trouble maintaining a steady rate of compliance among its population with regards to its DPT vaccination program – and while Singapore has not had a perfect track record, it is, on the whole, far more stable than that for South Korea, especially in the post-AFC years. There were two potential explanations that were brought up in the results section for why that may be the case, understanding the swings in South Korea's data from both a supply-driven perspective, as well as a demand-driven perspective. Historical analysis of the social, political, and economic conditions surrounding such swings seems to suggest that both perspectives have merit – that there were issues with not only supply, but also demand.

In graph 9, it is possible to observe a precipitous drop in DPTIR for South Korea around 1987. This coincides (as has already been pointed out) with the democratization movements that took place in 1987, which resulted in an interim government prior to 1992 that was, by-and-large, considered to be more democratic in nature than the authoritarian, military-led government of the Park and Chun regimes. This was due to the fact that the leadership of the Chun regime effectively transferred its executive powers to the legislative branch at the time, with the executive being led by a civilian politician for the first time in decades – Roh Tae-Woo. This suited the desires of the public very well at the time, given that their perception of democracy

centered largely around two features – a government led by civil society, and a leadership that accepted peaceful transfers of power according to electoral results (Kim et al. 2006). Emergency elections held in 1987 had resulted in Kim Young Sam's being placed into the presidential office, and the legislature was already dominated by civilian politicians (as compared to military politicians). However, these gains in democracy came at a rather high cost. It was in 1987 that the democratization movements truly gained traction and momentum, driven by not only student involvement, but also middle class involvement as the nation became outraged by a well-publicized scandal involving the military secret police and the torturing to death of a Seoul National University student, who had been mistaken for a radical political activist by the said police forces (Borthwick 2007). Numerous conflicts raged across the capital as demonstrations broke out, and the military-led government turned to using brutal force to subdue such demonstrations – which only incensed the public more. Thus began a vicious cycle, in which every subsequent interaction only pitted the public against the government more and more. An interview with a government worker in the Ministry of Health and Social Affairs (today, it is known as the Ministry of Health and Welfare) at that time revealed the state of the nation during the democratization movements: "It was a nightmare… it was getting pretty ridiculous, especially in the capital. You see, Chun passed a law that made it impossible for people to gather in groups, and the *chihan* of the city was a mess.[21] No one wanted to go outside, and when you did, even families were getting arrested for being outside in a group. Military MPs even monitored the ER in the medical center [where I worked] to make sure no one was gathering

[21] *Chihan* is a Korean phrase that refers to the general perception and actual reality of the security in any geographical location, though used in this context, it refers top how safe people felt (and how safe they actually were) outside in an urban environment. It is a cover-all word that can change meanings slightly depending on its usage, but can be understood as some combination of "actual security" and "psychological perception of security."

illegally."[22] This perspective matches closely with other claims made in literature about the state of South Korea during its 1987 democratization movements – "[In] June… all streets in urban areas were virtual battlefields" (Cumings 1997) As such, it is no surprise that vaccination efforts were heavily interrupted – not only by a precipitous drop in demand, caused by people refusing to go outside, but also by problems within the governmental system that made it difficult to distribute vaccines and related supplies to its various offices – Choi comments again on this matter: "Immunization efforts? Those sorts of things were practically non-existent in 1987… The [public health clinic] never got supplies in time… people also stopped showing up… no one wanted to [go outside], because they were scared of being arrested…"[23] Given this perspective, it would appear that the very low levels for DPTIR in 1987 and 1988 were caused by a combination of demand issues from the citizenry as a whole, in addition to problems with the provision of the necessary supply, caused by instability intrinsic to a democratization process.

The drop in DPTIR from 1991-1993 also adds further perspective on the effect of democratization and its effect on public health policy outcomes. Some scholars have pointed out that official democratization did not occur until 1992/1993, given the fact that public consensus in South Korea recognized the 1992 elections as the first "real" election in which their votes were significant in a political sense, marking the effective end of the military-dominated era of authoritarian regimes (Lee 1993). However, 1991 to 1993 were also turbulent years for the Korean government in general, due to rampant power struggles that went beyond mere partisan strife, expanding to a conflict between the incoming "new powers," such as the newly re-established National Assembly with its autonomy relatively restored since 1988, as well as the President-Elect Kim Young-Sam, and the "old powers," which were autocratic bureaucracies and

[22] From interview with H.O. Choi; For the entirety of the interview transcript, please refer to the Appendix section.
[23] From interview with H.O. Choi; For the entirety of the interview transcript, please refer to the Appendix section.

institutions nestled within the local government structures in the pro-government districts of Kyongsang-Do and Kyongki-Do (Cumings 1997, Cheung 2005). As such, early 1990s were characterized by radical shifts and personnel changes in the bureaucratic structures, beginning even before the passage and enactment of the so-called Administrative Procedural Reform Acts (APAs), which focused on replacing the autocratic nature of the bureaucracies, which were characterized by politically insulated positions of authority, with a more "responsive" bureaucratic structure that received its authority from the legislative and executive branches of government (Baum 2007). Such shifts were mostly political in nature, as Baum argues that Kim Young-Sam pushed for such legislation due to the staunch opposition he faced from the bureaucracies on policy preferences – and Ginsburg makes the argument that this reflects a trend towards "dismantling the developmental state" among post-democratization countries (Ginsburg 2001).

However, the implications for public health policy outcomes was also significant – and Choi states concerning such redistribution of political authority that they were negative in terms of how they impacted the daily work of public health workers and medical professionals, since the infrastructure of public health projects effectively "went under for a year or two after the… reforms."[24] This was possible mainly due to a shift in public perception about what government *should* be like – there were normative ideals of democracy that Koreans came to hold in very high regard in the post-democratization years, such as government transparency, support for the low and middle class, guarantees of public goods, and no corruption among politicians. Kim Young Sam was able to utilize this ideological shift in popular sentiments to publicize a few scandals involving high-ranking bureaucratic officials to provide impetus and political

[24] From interview with H.O. Choi; For the entirety of the interview transcript, please refer to the Appendix section.

legitimacy for the transfer of power from the autocratic structure of the developmental bureaucracies to the Presidency and the National Assembly, such that bureaucratic positions, especially in the upper echelons of the bureaucracies, where promotion was primarily based on "taking the correct line" and professional merit, became more political in nature, with the other branches of government, primarily the President, having the power to appoint and dismiss officials. This inevitably resulted in an infamous "brain drain" from the bureaucratic sector with many members entering the private sector to avoid getting disadvantaged politically (Baum 2007, Erhardt 2009). As such, this trend resulted in a reduced state capacity for public good provision with upheaval among the rank and file of the bureaucracies, which naturally came to affect short-term public health policy outcomes in a negative manner. What is more interesting however, is the fact that this trend appears to be somewhat relevant in the long-term perspective as well, given the decreasing pattern evident in the DOM-IMR for South Korea beginning around 1992/1993, which corresponds with Kim Young-Sam's successful efforts to pass APAs. Indeed, it may very well be that Kim's efforts at reform and redistribution of political authority may have resulted in decreased rates of improvements in the public health sector. Indeed, if we agree with literature claims that decreases in the quality of social welfare and public health programs affect the most vulnerable members of a population the most – that is, the elderly and the infants – then Kim Young Sam's reformatory acts having a negative effect on DOM-IMR makes sense, given that such reform acts did not change much in the substance of major programs such as the National Health Insurance Program, but did affect the ease with which bureaucracies were able to access resources for social welfare programs, one of which was free immunizations available at public health clinics.

For example, prior to Kim Young-Sam's redistribution of political authority in the autocratic bureaucracies, the various ministries for the Korean government had access to their own budgets that were nationally derived, in the sense that the national government paid for the services and programs established and administered by these ministries. However, with the 1993 reforms, such programs came to no longer be funded by the national budget, with the majority of the financial burden being shifted over to local governments – which was another tactic that Kim used in order to control the districts that were opposed to his relatively conservative policies, such as the two Cheolla regions, which had voted almost entirely for Kim Dae-Jung in the 1992 elections (Cumings 1997). Indeed, 1993 saw a variety of revisions to major legislations, one of which was the "Protection from Infectious Diseases Act," in which the local governments were not only responsible for coordinating, but also funding major public health programs, one of which were the immunization projects. In the law, it specifies that the costs of immunization projects must be met "by all self-governing special districts, cities, municipalities, localities, and districts," including subsidization of vaccine costs if the patient should choose to consult his or her primary care physician for their vaccinations, instead of the local public health clinic.[25] What is interesting, given this perspective, then, is that in the massive restructuring of government during the series of the so-called Kim reforms, the national government came to hold the majority of economic power in the form of collecting revenue from income-elastic taxes, such as from income tax and sales taxes (i.e. VATs), with the ratio of revenue collecting power being shifted heavily in favor of the national government with 78% of total revenue collected being centralized in the national government, and the remaining 22% being distributed across the various districts and provinces (Diamond and Shin 2000). Furthermore, the national government

[25] For the entirety of sections from the Protection from Infectious Diseases Act relevant to the discussion at hand, please refer to the Appendix.

still holds the power to direct the actions of local governments through assignments and projects, as an excerpt from the Protection from Infectious Diseases Act reveals: "All self-governing special districts, cities, municipalities, localities, and districts, must provide access to vaccines for diseases and their agents on an *ad hoc* basis… under a statutory directive from the Director-General of the Ministry of Health and Welfare requesting emergency immunization measures against a specific disease agent in the region." As such, under the Kim Young Sam reforms, a vast amount of political power came to be centralized in the executive and legislative branches of the national government, with the bureaucracies and local governments, which previously had enjoyed a substantial amount of autonomy and political power, coming to be, as Baum calls it, "reined in." Thus, it is not surprising then, to hear from first-hand accounts about the drastic reductions in the efficiency and quality of projects undertaken by the bureaucracies – and the local governments, which had no prior experience in this field – given the type of restricting that had taken place from 1992 to 1997 – which may very well be reflected in the DOM-IMR data for South Korea during this time period. Furthermore, in the context of this "reform causes decreases in public health policy outcomes on the short term" idea, the data from the DPTIR analysis makes sense, given that the pattern appears to be one of a sudden decrease in the DPTIR, followed by a period of steady recovering trend until 1996, commensurate with the idea that the newly established structures of bureaucracy, in addition to the local governments with new-found responsibilities, required time to appropriately adjust and reach acceptably high levels of efficiency.

However, we see yet another major drop in 1997-1998 for DPTIR, which coincides with the infamous Asian Financial Crisis, or as it was commonly called in South Korea at the time,

the "IMF Crisis" (Park 2009)[26] The decrease during this time period is the most distinct one out of all the "dips" present on the graph for South Korea, with the decrease between 1995 and 1997 standing at somewhere around 25 percentage points, from a high of almost 100% to a low of little lower than 75%. In this situation, it appears that a combination of both supply-side and demand-side failures occurred, with the governmental apparatus for the provision of public goods failing, in addition to very low demand for the specific good under consideration. The Asian Financial Crisis was characterized by the closing of many small businesses, failing of major banking institutions, and the inability of the government to restore financial stability to a market gone haywire, such that as much as the individuals lost their respective stock of the market (i.e. being laid off, stock-holding company declaring bankruptcy, etc), the government also had its own share of problems, ranging from major loss of capital invested in high-risk portfolios, to the inability to find funding for major essential projects[27] due to a severe devaluation of currency, in addition to the lack of foreign reserves to serve as a buffer during this financial crisis (Borthwick 2007, Sullivan 1998). Choi's comments about the AFC reveal just how dire the situation was: "The government was just as badly hit as the people were… [Many] became homeless for the first time with the IMF Crisis, so… a lot of public health projects that needed people to come in for benefits, like vaccinations, TB medication distribution, and Hansen's disease relief efforts became very much slowed down. People just didn't show up…"[28]

[26] The term "IMF Crisis" is actually a political loaded phrase that reflected the Korean public's perception during the AFC that Kim Young-Sam's reformist policies and pro-globalization attitudes were by-and-large responsible for the difficulties faced by the nation, and is a direct attack on the International Monetary Fund, which imposed rather strategically unwise Structural Adjustment Plans (SAPs) on South Korea as part of its conditions for financial support. Public perception of this decision by the IMF was viewed as a Western attack on rapid Eastern development, and Kim Dae-Jung, the President at the time, called on the public for voluntary donations in order to pay off the debt as quickly as possible, which was achieved by 1999. "East Asia and Globalization" by Samuel Kim provides an in-depth look at the topic, with perspectives from both South Korea, and the international community.
[27] "A Generation's Future Goes Begging; Asia's Children Losing to Destitution" The Washington Post, 1998
[28] From interview

However, it is also well-known that under the relatively austere directives of the Kim Dae-Jung regime, South Korea was able to handle its obligations to the IMF and its creditor countries for the bailout by 1999, and by 2000, was reporting robust growth once again, which interestingly correspond with restored DPTIR levels similar to that prior to the Asian Financial Crisis in 1996 (Cheung 2005).

The final major "drop" is rather minor, but is given consideration due to the fact that it coincides with a very significant event in Korean politics. There is a small decrease at 2004, from a DPTIR reading of approximately 97% to 88% - an almost 10% decrease in the space of one year. What's more interesting though, is the fact that this event appears to be a singular incident, with a DPTIR reading of 98% by 2005. That is, the pattern is altogether rather irregular, given that previous "drops" in DPTIR levels typically took at least two years to recover from (from 1987 to 1989), and in most cases took more than two years, as in the cases for the decreases corresponding to 1992 and 1997. As such, a singular decrease that disappears in the space of one year suggests a fundamental change in the structure or the stability of the system of public health provision in South Korea. In 2004, the public impeachment and trial of President Roh Moo-Hyun took place under claims of illegal electoral support by the National Assembly, with President Roh being found guilty, but being reinstated into office by the judicial branch as the Constitutional Court of South Korea found no clause within the National Constitution that allowed the Assembly to prosecute the President under such claims (Hahm 2008). Nevertheless, this political transition affected the bureaucracy once again, as the legitimacy of many politically appointed positions in the various ministries (dating back to the Kim Young Sam reforms) came under challenge with the President being effectively accused of political fraud. As such, yet another personnel shift occurred, and Choi explains that "President Roh did a bad job of giving

too many of his personal friends *gamtoo*[29] and the Ministry of Health and Welfare was no exception. When Roh lost his power and the National Assembly became dominated by the Right, they began to use the Public Prosecutor's Office to replace a lot of high-ranking officials again…"

The argument that emerges from this understanding of South Korea's trouble with political transitions and consolidation is that one aspect of South Korea's trouble with respect to maintaining its DPTIR levels at a stable level is, in part, one of the effects of political transitions of the bureaucratic apparatus – and not one necessarily of democratization. It is not hard to imagine that an authoritarian state transitioning from one authoritarian regime to another authoritarian regime – say, from a dictatorial kleptocracy to an oligarchic system – would have difficulties similar to that of South Korea. The historical perspectives, and an understanding of the political and socio-economic events of note in South Korea during this post-democratization time period suggests that there was nothing specific about becoming a democracy that negatively impacted South Korea's public health programs, but that it was the effect of political movements and shifts in power throughout the different levels of government that made it difficult for public health programs to ensure the supply-side of the equation under consideration. With every political reform – whether in 1987, 1992, or 2004 – it is evident that each political shift resulted in some form of a shake-up of the bureaucratic apparatus in South Korea, which invariably affects how work is done, in addition to how funds and resources are allocated. This means that the primary effect of transitions on public health programs is one of negative impacts on the governmental ensuring of supply. This argument is in line with the observations made for Singapore, in which the data remains stable – because Singapore did not have any significant

[29] *Gamtoo* refers to the hat that government officials wore in the *Chosun* dynasty prior to the colonization of South Korea by Japan in the early 20th century, and is used as a phrase describing political gifts in the form of positions in government that the President or member of the National Assembly can confer on a person.

political transitions of note during this same time period which would have affected its public health bureaucratic apparatuses.

However, there also appear to be other factors at play than simply transition effects, given that South Korea was affected negatively by the Asian Financial Crisis in 1997 – but Singapore was not. While it is true that Singapore was affected to a lesser degree by the Asian Financial Crisis than South Korea, it seems odd that Singapore's DPTIR levels stay remarkably steady throughout that specific time period, while South Korea suffers from substantial decreases in its readings, up to 25 percentage points in a span of two years. Indeed, Singapore has had substantially less trouble with maintaining its high levels of DPTIR, which is interesting, given that, at least on the surface, the only significant difference of note between Singapore and South Korea is that South Korea has democratized, while Singapore has yet not. South Korea and Singapore share relatively similar state capacities in terms of how much resources they can allocate per citizen for the provision of public goods, in addition to the fact that their rates of economic development also seem to be similar. However, some clues to an additional factor affecting public health policy implementation can be found in the laws providing for such public health programs in Singapore, which are in stark contrast to those for South Korea, where there is little mention of penalties of obligations of citizens, with a focus almost exclusively on who is responsible for promoting, instituting, and financing the program. There is no doubt in the South Korean law as to the fact that the provision of vaccines is a good that is desired by the general population, and that the state is answering those desires in an appropriate manner. However, in the Singaporean version of the law titled "Infectious Diseases Act," the language turns much more austere with emphasis being placed on the duty of the citizen to receive the vaccine or otherwise pose a threat to the security and welfare of the nation at large. For example, the first

clause of the actual law after definitions is as follows: "The parent or guardian of every child in Singapore shall ensure that the child completes a course of primary diphtheria vaccination… in the case of every child residing in Singapore who has received primary diphtheria vaccination, booster diphtheria vaccination consisting of one injection shall be compulsory…" Contrasting this to a comparable clause the law for South Korea, which states that: "All self-governing special districts, cities, municipalities, localities, and provinces must, in accordance with the above prescribed laws, provide for regular and standardized immunization projects in conjunction with pre-established public health clinic(s) in the region for the following diseases…" shows that there is an underlying difference of motivations and ideals at play here. Indeed, the law for Singapore does not merely make it mandatory, but also institutes fines and punishments for anyone who ignores these regulations – there are stipulations providing for the timely notification of parents and guardians about the status of their children's vaccinations, in addition to requirements that parents and guardians have in their possession official certificates proving that their children are up-to-date with their vaccines. Additionally, Singapore ties in this law to other laws, such as that regarding pre-school education, where "No child care center shall enroll any child who has not been given immunization as required under existing law."[30]

Here, the discussion becomes one not only of the effect of democratization and economic development on public health policy outcomes as a whole, but also what the ramifications are for developing nations which seek to institute effective public health policies conjointly with other projects that invariably require not only actual financial capital, but also social capital, human resources, and a substantial amount of time investment. South Korea and Singapore have been

[30] Interestingly enough, the laws for immunization programs and child care centers were passed in 1988 and 1989, respectively, which matches nicely with the quantitative observation that Singapore's DPTIR readings rapidly stabilize at a high level after this point in time.

shown to be similar in terms of their state capacities, in the sense that with regards to the immunization debate, both countries are expected to be able to obtain a steady supply of vaccines required for their programs, to ensure additional supply in the case of crises, and to have an effective system of distribution whereby access to said vaccines is easy and convenient for the majority of their populations. Furthermore, Singapore and South Korea are similar in terms of their economic development, as well as in their models for economic growth, in which both countries primarily rely on foreign investment, and/or Import Substitution Industrialization – and the quality of health care and technology available in both countries are comparable to that found in Western developed countries, such as in the United States or in Europe. Thus, the only seeming major difference that could explain why there is such a difference between South Korea and Singapore in their DPTIR records is the fact that South Korea democratized in 1987, whereas Singapore has remained staunchly authoritarian with a political elite leading the government since its creation (Ortmann 2010). And yet, there is little to suggest in the evidence so far that links democratization as the other factor affecting public health outcomes negatively. All of this points at another issue which may be more fundamental in nature than the impact of political transitions on the supply-side logistics of public health policy implementation.

Thus, this "other" significant aspect of the discussion between South Korea and Singapore becomes one of liberalism versus illiberalism. In South Korea, with democratization and the advent of electorally-driven politics came the inevitable breakdown and decentralization (or re-centralization) of political power from the autocratic bureaucracies into various different parts of the national government, especially in the Presidency. This allowed for greater public access to the bureaucratic infrastructure, and it is true, on the whole, that bureaucracies have become much more responsive to the needs and requests of the general public since the Kim

Young Sam reforms which began in 1992 (Diamond and Shin 2000). However, without democratization, Singapore was able to maintain its bureaucratic structure, which has become effectively integrated into the partisan structure of the PAP leadership in Singapore: "In [Singapore], political decisions are made by a skilled, efficient bureaucracy with an emphasis on scientific management… [But] the ministers have the last word in the decision-making process… [As such] the goal of the PAP in the initial years… was to create a bureaucracy that conformed ideologically to its own ideas and goals. Therefore the bureaucracy was "fully socialized in the developmentalist values." From the beginning, the relationship between the PAP and the bureaucracy was very close…" (Ortmann 2010). As such, Singapore has been able to pursue continuous improvements and cohesive policy measures without much in the way of disturbance, as both the political and the technocratic parts of the bureaucracy do not come into conflict, as they did in South Korea (Quah 2001). Indeed, it is not impossible to imagine that a democracy might pass draconian laws with the explanation that it was for the greater good, or something along the lines of ensuring public health and security. However, this was not possible in South Korea due to the liberal political attitudes of not only the government post-democratization, but also of the public, which demanded greater liberalism in the public sector, in addition to greater access and transparency from the government in general. This is highlighted when one considers that the ideal role of government that Koreans espoused in a survey was a state that provided goods and ensured protections of major political rights, especially that of voting for office (Diamond and Shin 2000). However, in Singapore, the role of the state, the PAP elite leadership argue – and the public agree – is to provide a controlled environment in which Singapore can thrive, with technological and scientific management of the state to ensure the best possible public policy outcomes – a Confucian concept known as the "sage king" (Morley 1999).

To elaborate, the effect of liberalism (or illiberalism) on a state with respect to public health policy is essentially one of how policy is instituted. In both South Korea and Singapore, immunization programs have two major components, which are 1) the ensuring of supply (i.e. vaccines, medical staff, sterile environment for hygienic administrations of vaccines, etc), and 2) ensuring that the vast majority of the population is covered by the vaccination protocols in place. In both countries, the pressures placed on the state for the ensuring of supply are relatively similar, since the economic capacities and technological capabilities of both states are relatively similar, such that it is difficult to imagine that South Korea would have trouble setting up hospitals and medical clinics to house its vaccination programs, just as it is difficult to think of a situation in which Singapore does not have an adequate supply of the vaccine itself. However, it is in the second part of the policy implementation process – the controlling of public demand – that liberalism and illiberalism plays a role. In South Korea, liberal political attitudes, as a by-product of both the democratization movements, as well as various other socio-political influences – some of them international – have led the state to believe that its role is to provide a public good for the people, without forcing anything on the people, per se. That is, the South Korean government, and the South Korean population at large, holds civil liberties and the concept of personal freedoms (political and otherwise) as something the state should not violate (Diamond and Shin 2000). As such, the South Korean government, while it will ensure the supply portion of the immunization program, and may very well heavily encourage its population to become vaccinated, it will not resort to draconian measures to ensure vaccination, as it does not wish to force upon the people a public good. The Korean people, in short, have a choice as far as the immunization program is concerned, and there certainly is law in place that imposes fines or penalties on any individual who refuses (or forgets) routine vaccinations.

This is not the case for Singapore. The Singaporean government operates under a principle espoused by the founder of the PAP, Lee Kuan Yew, which argues that the ideal form of government is that proposed by Confucianism, which is traditionally known as the concept of the "sage king," and is now more commonly known in Singapore as "strategic elitism" (Barr and Skrbis 2008). This ideal holds that the state know what is best for the people, and that scientific management of the state through an efficient meritocratic bureaucracy and political party structure will yield the best outcomes politically, socially, and economically. The attitude here is intrinsically illiberal – there is no concept of personal rights or freedoms here. The state dictates what every individual should do, as the state has come to a conclusion that a certain policy pathway is best in a scientific manner – and for an individual to go against this imposition of a public good would be bad – not only for the individual, but also for the cohesiveness of the country, which hinges on the people following the political elite's directives without question. As such, Singapore perceives that its role as a government is to not only to ensure supply, but to ensure demand, in the sense that there is no concept of a demand – everyone must yield to the state's decisions, or otherwise face the negative consequences, as shown by the legal arrangements for the implementation of immunization programs in Singapore. Participation in the immunization programs are heavily incentivized due to the presence of punishments and fines if citizens to not comply, in addition to the loss of other benefits, such as access to preschool education. Thus, demand-side problems from an uncooperative public are almost entirely irrelevant in a discussion of Singaporean public health programs.

However, this does raise the issue of the monolithic bureaucracy, in which the bureaucracy is unable to deal with problems caused within a sector due to the lack of alternative options, such that the only options are to either dismantle the existing system or to find for

solutions within the established system with minor modifications. For example, critics of the Singapore's famously successful public housing program argue that since the state is now the only real stakeholder in the housing market, problems intrinsic to housing markets such as inflation, deflation, and necessary foreclosures with subsequent loss of capital must be entirely handled by the state's own capacities, which may prove troublesome, especially if the state is in trouble itself (Tremewan 1994). For example, a major concern was that Singapore's state-sponsored economy would collapse at the peak of the Asian Financial Crisis, and while Singapore did not get too adversely affected by the AFC, the fact remains that Singapore cannot control the international market, and is subject to all the risks thereof. This means that while the state is a strong, robust, and healthy, a large enough shock will completely dismantle the entire nation without flexibility for recourse – whereas countries such as South Korea without such concrete state involvement are able to recover from such "large shocks," as made evident in 1999 (Quah 2001).

In short, the experience of South Korea as a young democratic state in comparison to that of Singapore can be explained by two themes – transition effects and "liberalism vs. illiberalism." South Korea exhibited major instability in its DPTIR readings, which corresponded, to a large extent, with political shifts that were caused by a transition from an authoritarian regime to an evolving democratic state. All three major political shifts – in 1987, 1992, and 2004 – were not necessarily democratic in nature, insofar as they were more to do with a re-organization of political power within the structure of government. Furthermore, each subsequent transition resulted in a lower level of impact on public health policy implementation, as can be seen on the graph. However, South Korea also experienced some issues with its DPT immunization program due to the liberal political attitudes of the state, which resulted in demand-side problems when

the population suffered as a result of the violent democratization movements in 1987, and the Asian Financial Crisis in 1997. Singapore did not exhibit similar patterns of sudden decreases in DPTIR, since 1) it did not undergo any political transitions of note in the period of interest, and 2) its illiberal attitudes in policy-making effectively eliminated the issue of demand-side problems by heavily incentivizing the immunization process with fines and interlinked systems of benefits, such as preschool education being only accessible to those with up-to-date immunizations.

Discussion and Conclusion

In line with the more recent works in literature, this thesis argues that the relationship between democracy and public health outcomes is relatively weak, and that economic capacity of a state is a far better predictor of public health policy outcomes. However, there is also the issue that the data cross-referencing the Freedom House Political Rights Index and the World Bank's data on Infant Mortality Rates showing that the relationship between democracy and public health outcomes was stronger in 1979 than in 2009, which was in part explained by greater political freedom in the world in general, in addition to increasing numbers of young democracies that have yet to develop robust institutions for public health policy implementation. These observations are in line with claims in literature that greater democratic exposure for a state results in improved public health outcomes as measured by infant mortality rates, with McGuire claiming that greater democratic experience influences greater utilization of institutions for "basic social services" which positively impact infant mortality rate, as well as that "long-term democratic experience is associated with lower infant mortality" (McGuire 2010). Gerring et al. show similar results, with the conclusion that "a stock measure of democracy is associated with improved human development," explaining that the institutions and establishments set up by increased exposure to democracy, such as "competition-induced accountability, a vigorous civil society, a culture of equality, and institutionalization" will be unlikely to have direct effects on the quality of public health outcomes on the short-term, but are much more likely to positively influence the overall trend for public health development (Gerring et al. 2012). Given these claims, then, it is no surprise that it was not possible to observe the effect of democracies on public health outcomes from the dataset for this work, as the international dataset comparing democracy and public health covered a time period of little more than three decades from 1979

to 2010, meaning that long-term trends in democratic exposure and its positive effects on public health outcomes were not readily visible. For example, Gerring et al. use the Polity IV dataset that goes back all the way to the 1800s, while McGuire uses data going back to 1900.

That being said, it was still possible to see the effect that a sudden increase in the number of democratic states had on the relationship between democracy and public health outcomes, as made evident by the downward trend in the correlation coefficient for this relationship from 1979 to 2009. Furthermore, it was readily evident that the relationship between democracy and public health outcomes was not null, though it was weak at best. Given this observation, economic capacity of a state appears to be a much more robust indicator for short-term explanations of the quality of public health outcomes for democracies, or for countries without significant democratic experiences. For the dataset studied, the log of GDP Per Capita was shown to be consistently strongly related to the quality of public health outcomes, and it was notable that out of the fifteen countries assessed for a small cross-national survey, the five countries with the most significant levels of improvement in the quality of their public health policies as measured by DOM-IMR, also had the most robust levels of economic development in the same time period. This is also entirely in line with literature arguments that show "wealthier countries tend to be healthier" (Pritchett and Summers 1996). Mosley and Chen provide an analytical framework and a model to propose the mechanism by which economic development positively impacts public health outcomes, where greater economic capacity for a state results generally in greater protections and institutions in areas such as maternal health, environmental safety, and provision of adequate nutrition (Mosley and Chen 1984). McGuire also states that on the short-term, economic development is a far better explainer for how states fare in terms of infant mortality rates, especially if they are not democratic (McGuire 2010). In this way, short-term effects from

economic growth and long-term effects from democratic experiences may not be dichotomous or mutually exclusive. Indeed, it may very well be that the two factors work synergistically to influence public health policy on the whole. Mathematical models, however complex, have not yet found a conclusive relationship that proves economic capacity to be the end-all, be-all for public health outcomes, nor have they found that greater democratic exposure is the decisive factor for determining public health outcomes. Furthermore, the fact remains that countries which developed economically before democratizing are relatively young. For example, South Korea, which is given special consideration in this thesis, only has 25 years of experience as a democracy, whereas Taiwan, another similar "mini-dragon," only has 16 years of experience as a democracy (Borthwick 2007). As such, it remains to be seen if democratic experience and economic growth does in fact work synergistically to improve public health outcomes – even if normative assumptions would expect such a happy conclusion.

On the other hand, the short-term experience of becoming a democracy appears to be significant for public health policy, in the sense that regime transitions will invariably affect how and what policies are implemented. In South Korea, we saw the DPTIR fluctuate wildly in accordance with radical shifts with not only demand-side issues from the public in response to crises such as the violent democratization movements of 1987 and the infamous Asian Financial Crisis of 1997, but also in response to supply-side problems corresponding to major transitions in governmental structure, such as in 1987 with the democratization process, in 1992 with the Kim Young-Sam reforms, and in 2004, with the Roh Moo-Hyun impeachment trials. What was readily evident was that political transitions make a country remarkably sensitive to all kinds of political, social, and economic disturbances, which give some credence to the concerns expressed by the Singaporean leadership in the People's Action Party (PAP) that the

democratization of Singapore will result in a fragile Singapore, liable to destruction through instability (Morley 1999). Indeed, when one considers the veritable roller-coaster experience that the Korean public health sector had with regards to DPT immunization programs, a comment by a former public health worker seems apt that Korea is "just now getting used to [being a democracy]." Indeed, if the assumptions stated above about the potentially synergistic effect of long-term democratic exposure and increasing economic development are correct, then the potential for South Korea to further improve on its already excellent public health system are encouraging, though there are also concerns. For example, the bureaucratic process is now much more open to the public, and has been susceptible to public pressures in the form of lobbying and petitions; furthermore, there is evidence to suggest that electoral politics and partisanship are beginning to play much more significant roles in how public funds are distributed – which was not the case in authoritarian Korea (Kwon 2005). Thus, there is not only the potential for growth, but also the potential for unfavorable re-distribution of resources, with electoral politics, lobbying, the increased role of private companies in the public sector, as well as the power of the individual voter, all beginning to affect South Korea in ways previously unrecorded (Kim 2000).

In contrast, Singapore presents a very different case. If the deciding factor for how South Korea's DPT immunization policy played out was the liberalist attitude driving both government and the public, then the deciding factor behind Singapore's relative stability may very well be its aversion to uncertainty. Singaporean political leadership not only controls how policy is implemented by regimenting a strict linear system of organization between the party structure and the bureaucratic structure, but also by ensuring political dominance of the PAP through, at times, unnecessarily harsh measures, including harassment by police and coercion through use of the legal system (Tremewan 1994). The leadership insists that such draconian procedures are in

place to ensure the survival and continued growth of Singapore as a state, explaining that the relationship between the leadership and the population is one almost akin to the Confucian model of the ideal monarchy: "In exchange for a paternalistic but benevolent rulership that delivers peace and prosperity, the populace extends respect, obedience, and loyalty to the ruling party and state. Insofar as the PAP is able to deliver the goods, this cultural pattern of reciprocal obligations between the rulers and the ruled will continue to underpin one-party dominance" (Er 1999). The issue is one of liberalism as compared to illiberalism. Singapore's political ideology of choice is illiberalism and mandatory enforcement of public goods provisions, a good example of which is the Public Housing program – as long as the population continues to provide political legitimacy to the ruling party, the population will receive essential benefits in return, such as housing, public infrastructure, education, and health care (Chua 1995). In short, the main reason that Singapore did not – and could not afford to – suffer from drastic fluctuations in its DPT immunization programs was due to the fact that how well public goods are provided to the population is directly related to the legitimacy accorded to the PAP in Singapore. Thus, the PAP has no choice but to be draconian in its methods in order to ensure its pristine image of excellence and benevolence, lest its citizenry come to believe that the PAP has failed them. The political relationship between the leadership and the public in Singapore is more complex than a simple enforcement of authoritarian rule upon a people – rather, it is almost a consented form of authoritarianism, where the state maintains an image of strength, but in reality must continuously check to ensure that its legitimacy is not threatened.

So what are the normative implications for the relationship between democracy and public health in general? The patterns observed, in addition to the case studies of South Korea and Singapore show that numerous factors must be considered if a successful public health

program is to be instituted at all in any country, democratic or otherwise. The most essential factor for any successful public health program appears to be how wealthy a country is, especially if a country is newly democratized or has undergone a political transition. Liberalism and enduring democratic exposure may very well have positive impacts on the quality of public health outcomes overall – but in the short-term, the important factor for a new state is ensuring that there are no problems with the supply-side mechanics of providing public health goods. For example, even with South Korea's technological capabilities, high rates of economic growth, and pre-established institutions for public health policy, political transitions were shown to negatively impact the short-term quality of public health policy, with the effect lessening with every subsequent political disturbance. This means that for any new democracy (or any new state) that wishes to implement effective public health measures, the primary concern should be a pragmatic one – how to ensure supply, how to ensure efficient delivery mechanisms, and how to find the funding to sustain a project after its inception. Democratic experiences and extended exposure thereof is of secondary importance in the short-term. McGuire agrees – in another of his works, he argues that what is essential for states is that "a very small absolute amount of revenue is spent effectively to raise access to, or improve the quality of, maternal and infant health care" (McGuire 2005). Furthermore, if a state wanted to ensure that its public health projects were as efficient as possible, it may be prudent to establish some incentives for its population to participate in the projects, such as in Singapore; this will allow for a minimal amount of interference from demand-side problems.

Thus, having compared South Korea and Singapore, two states with high state capacity and economic growth, with one democratizing and the other remaining authoritarian, one might expect the following patterns if two states with low state capacity, slower economic growth, with

one democratizing and one not doing so were compared. As both states have less technological capabilities to ensure access to efficient public health programs, the baseline for these two states would be expected to be very low, with patterns of economic growth matching patterns of public health quality improvement. However, over time, one might expect the democratic state to exhibit higher levels of improvement in public health quality as democratic experience, coupled with economic development, encourages better public health policy and, correspondingly, better public health outcomes. In the authoritarian regime, unless the state actively adopted projects for public health improvement as in Singapore, it would be expected that the quality of public health in the authoritarian regime would only show improvement concurrent to its rates of economic growth, but with problems in ensuring adequate supply of public health goods due to limited state capacity. Furthermore, it is more likely that unless this state heavily incentivizes compliance with its policies through various means, it will most likely suffer from decreased quality of public health outcomes due to minimal participation by a population that is most likely not wholly in favor of the regime – as Beyrer explains, "states like these rule by force…. Looked at from the perspective of a citizen in one of these states… when neither the protection of individual rights nor the public good motivate state actions, public health suffers… what reasons should individuals have to assume that anything the state is reporting is true?" (Beyrer 2003). As such, the expectation is that over time, the disparity between two low-capacity states with different regime types will become more distinct as democratic experiences come to dominate the rationale behind state actions, however limited in scope.

Future studies on this topic, then, might focus on the following issues that were not addressed in this thesis. Currently, the relationship between democracy and public health is tentative at best, and is largely based off literature claims of correlation, such that further work to

either reproduce or modify some of the literature assertions with larger datasets may be desirable. Furthermore, one aspect that might be studied in particular detail is the potential for synergy between democratic experiences and economic development, such that countries with democratic experiences but little economic growth, countries with economic growth but no democracy, and countries with both factors might be considered over a longer period of time to see if the patterns of public health outcomes are different, and if so, in which ways. Also, it may be useful to study different types of states with regards to state capacity/. For the most part, this work focused on South Korea and Singapore, both of which have high state capacity, excellent economic development, and impressive levels of technological capabilities, meaning that the conclusions drawn from the two case studies may very well be somewhat different with regards to states with moderate state capacity, and in states with little or no capacity for public health policy implementation. To this end, further in-depth case studies of comparable countries in Asia, Africa, and Latin America may be useful, with similar methods of analysis to see if generalization made in South Korea and Singapore regarding supply, demand, and transition effects hold true across the varied spectrum of socio-political experiences on the international stage. Such studies will do much to add further perspectives on the progression of public health outcomes in the world, and contribute towards better informed decision-making by both states and scholars alike.

In conclusion, this thesis presented three arguments. Firstly, it appears that the relationship between democracy and public health outcomes is moderate at best, and has been decreasing over time. This can be attributed to increasing numbers of democratizing states in the latter part of the 20th century without commensurate increases in the quality of public health due to limited state capacities. However, this also shows that long-term democratic exposure may

have significant effects on the overall quality of public health policy over time. Secondly, for short-term analyses, economic capacity provides a much more robust and sustained explanation for public health outcomes, supporting the so-called "wealthier is healthier" hypothesis. Increases in economic capacity are expected to affect public health outcomes positively by allowing the state to provide its public with greater access to social resources and programs which contribute positively to proximate determinants, such as maternal health, environmental safety, and nutritional adequacy, resulting in an overall shift in the health-sick equilibrium for the better. This observation is supported by specific countries in the cross-national survey that exhibited significant rates of public health improvement, as they also exhibited similar levels of economic growth in the same time period. Thirdly, a micro level comparative analysis of South Korea and Singapore reveals that liberalism and political transition effects accounts largely for the fluctuations in South Korea's DPTIR levels, as liberal political attitudes resulted in relatively lax requirements for public health policy compliance, leading to demand-side issues in crises – in addition to supply-side problems with every political transition and shift that occurred in the years following 1987. Singapore did not suffer from such problems as its political attitudes were illiberal, allowing for rather draconian measures to incentivize compliance with public health laws, in addition to the lack of political transitions, which allowed the governmental apparatus to function without any major interruptions in the form of structural readjustments. The normative implications of these observations are that developing nations should attempt to ensure a pragmatic approach to public health policy before political liberalization in order to ensure maximum efficiency, though it is expected that over time, democratic experiences will contribute in a positive manner to the overall quality of public health outcomes, possibly in a synergistic fashion with continued economic growth. The picture presented here is not one which predicts

rapid improvements in the quality of public health outcomes, but it is one that is optimistic for the future of public health, given the continued improvements made in a relatively short span of time in the past fifty years, with expectations that with concerted effort, and an understanding of the intricacies involved in political transitions and policy implementation, newly democratizing and developing nations may be able to avoid the mistakes of their predecessors and so forge paths unseen, for the betterment of mankind as a whole.

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Appendix

There are three sections to the appendix, which the reader may find interesting. The first section is the complete transcript (translated) of the interview with Ms. H.O. Choi, a former public health worker for the Ministry of Health and Social Affairs (now Ministry of Health and Welfare) in South Korea. The second section includes the Korean law (in Korean) concerning immunization protocols, followed by a translation of the most relevant sections of the law for the purposes of this thesis. The third and final section include excerpts from the Singaporean laws concerning immunization programs, as well as related policies regarding immunization, such as Child Care Center provisions.

1. Interview Transcript – H.O. Choi, 03/14/2012

Interview Transcript (Translated)

SL: Dear. Ms. Choi, thank you so much for agreeing to this.

HC: It's my pleasure. That being said, I won't be able to reveal specific names and other such matters, as I am sure you understand – unless the matter is well publicized, in which case I don't need to really repeat myself, yes?

SL: Yes, I understand. First, in what capacity did you work in the 1980s and 1990s?

HC: Do you mean, where did I work, what did I do, that sort of thing?

SL: Yes. I don't really need specific dates, but your job titles and the like might be helpful.

HC: From the mid 1980s to early 1990s, I was a registered nurse on the surgery ward at the Catholic University of Korea's medical center, Our Lady of Mercy University medical center, where I became the head of the CTICU (Cardiothoracic Intensive Care Unit) in the late 1980s. Around the same time, I began working as the assistant director of a *bogeunso*[31] in one of the less-well-off areas of Seoul. The [Catholic] university had good connections with the Ministry of Health and Social Affairs, and [they] were very willing to send its workers to help out with projects and the like.

SL: What do you do now?

HC: I work for a charity that works with ex-Hansen's disease victims. I serve as one of the directors in the Gyeongnam district for the Korea IDEA organization. So what did you want to know? Your father said you were working on some project for your bachelor's degree.

[31] Translator's Note: Public Health Clinic

SL: Well, I'm working on a political science thesis, and I wanted to know about what happened to the Ministry of Health and Welfare after democratization in 1987. You see, the data that I have for immunization rates for DPT and MMR seem to suggest some big logistical problems, but I've been having trouble finding good primary accounts of what really happened.

HC: Well, can you be more specific?

SL: What was it like during the 1987 democratization movements?

HC: It was a nightmare. I took part myself, but it was terrible. Not to mention that it was getting pretty ridiculous, especially in the capital. You see, Chun passed a law that made it impossible for people to gather in groups, and the *chihan*[32] of the city was a mess. No one wanted to go outside, and when you did, even families were getting arrested for being outside in a group. Military MPs even monitored the ER in the medical center to make sure no one was gathering illegally.

SL: So would you say that affected immunization efforts and the like?

HC: Immunization efforts? Those sorts of things were practically non-existent in 1987! That year was a disaster in more than one way… The *bogeunso* never got supplies in time – like simple bandages and salves – never mind vaccines. People also stopped showing up, so we sent what few people we had available to remind the really bad cases – like patients with tuberculosis – to come in for their medicines. No one wanted to leave, because they were scared of being arrested. One old man, when I went to his house told me that "I'm scared, I can't go outside. They know I'm from the *Cheolla* region. They'll think I'm with Kim Dae-Jung."

SL: So what was it like after democratization? I'm really interested in finding out what happened in 1993, you know with—

HC: President Kim Young Sam?

SL: Yes.

HC: There was a lot of confusion. Kim Young Sam, you see, was very interested in gathering political power for himself, and the bureaucrats were getting in the way. They wanted to keep doing things *their* way. So Kim decided to use the Public Prosecutor's Office. Revealed a couple dozen corruption cases with high-ranking bureaucrats, and used the publicity to call to the public. Of course the country was outraged. At that time, we [South Koreans] had this naïve idea about what democracy should be like – the officials should be clean, fair, and just – and if they were corrupt, they should be voted out. There were lots of demonstrations and the like. Kim used this to replace a lot of head bureaucrats. I was getting ready to go full-time into charity work at the time, but I remember a lot of bureaucrats meeting with private company representatives from big *chaebol*[33] and the like, and I was offered several bribes myself from a few *chaebol* representatives to keep quiet about what I had seen. The whole infrastructure kind of went under for at least a year or two after the 1993 reforms. I think it was around that time that the laws for public health changed in a big way too. People were encouraged to spend more on their personal medical expenses, so a lot of public health clinics closed. You should check the law – you can find it online. It's different now though.

SL: So what happened to you after that? Did you stay with the Ministry or the university medical center?

HC: Well, I went into charity work full-time in 1995. I stayed with the university medical center until 1994, and I stayed with the Ministry until 1995, when I left it for the charity project that I'm doing right now. But I kept in touch with a lot of my medical friends and bureaucrat friends even after, so I have a good sense of what happened to the Ministry [of Health and Welfare] even after I left.

[32] Translator's Note: Public security state – a Korean phrase used to describe how safe people feel outside, etc.
[33] Translator's Note: Chaebol is a Korean word that describes family-dominated business conglomerates; in Japan, they are known as *zaibatsu*. Some notable examples in modern Korean economy include MNCs such as Hyundai, Samsung, and LG.

SL: Well, I was also interested in what happened with the IMF Crisis[34] in 1997 and 1998.

HC: That was another mess. Bad times. Lots of people losing their jobs and homes – people were busy just surviving at that point.

SL: Would you happen to know how that affected public health efforts?

HC: I couldn't tell you specifics, but I do know this – the government was just as badly hit as the people were. Also, people were just busy staying afloat, so I doubt that parents were really making sure that their kids were up to date with their vaccines. A lot of people also became homeless for the first time with the IMF Crisis, so I do know that a lot of public health projects that needed people to come in for benefits, like vaccinations, TB medication distribution and Hansen's disease relief efforts[35] - became very much slowed down. People just didn't show up. I remember this, because I worked with IDEA, which worked with *bogeunso* in the capital for Hansen's disease relief efforts, and the patients just stopped showing up. I suspect something similar for vaccinations.

SL: I see. I just had one more question – with the impeachment of President Roh, were there any repercussions for public health policy? Were institutions like *bogeunso* and the Ministry of Health and Welfare affected?

HC: It wasn't as bad as in 1993, but certainly. President Roh did a bad job of giving too many of his personal friends *gamtoo*[36] and the Ministry of Health and Welfare was no exception. When Roh lost power and the National Assembly became dominated by the Right, they began to use the Public Prosecutor's Office to replace a lot of high-ranking officials again – and similar things happened then as in 1993. Lots of bribes, phone calls, meetings… Our government's not as upright as you think. [laughs]

SL: So every time power shifts like this happen, what happens to places like *bogeunso?*

HC: Well, I can tell you what happened in 1993, which is not much in the way of every-day life – but funding gets cut. That's the biggest thing. Funding for local projects suddenly disappeared, and central stopped sending us supplies. They sent the basic supplies, but specialized things, like medicine for Hansen's disease, antibiotics for special TB cases – things that cost a lot more money – just stopped. Vaccines also started getting sent in smaller quantities. We were told to encourage parents to pay a small fee and get their vaccines at a private hospital instead. I don't know what happened to all that money. I really don't want to know, actually.

SL: So how would you say democratization affected Korean public health?

HC: I'd say that we're finally getting used to it. The laws are better, and the infrastructure is finally getting placed where it needs to be. I couldn't tell you exact details since I'm not there anymore, but my friends who stuck with the Ministry say that the government is now providing more benefits and services that ever before. Everything's gotten a lot more streamlined than in the 1990s… Well, I have to go now – anything else?

SL: No, thank you so much for your time!

[34] Translator's Note: Korean name for the Asian Financial Crisis of 1997-1998.
[35] There is a provision in the Protection from Infectious Diseases Act that provides for full medical treatment and coverage of any costs by the national government for any victim of Hansen's disease (leprosy variant native to East Asia) that public health clinics offered.
[36] Translator's Note: Korean euphemism for political gifts – i.e. position in government for political support

2. *South Korean Law Concerning Immunization*

a. Korean Law (Untranslated)

제 1 장 총칙

제 1 조(목적)

이 법은 국민 건강에 위해(危害)가 되는 감염병의 발생과 유행을 방지하고, 그 예방 및 관리를 위하여 필요한 사항을 규정함으로써 국민 건강의 증진 및 유지에 이바지함을 목적으로 한다.

제 2 조(정의)

이 법에서 사용하는 용어의 뜻은 다음과 같다.

- 1. "감염병"이란 제 1 군감염병, 제 2 군감염병, 제 3 군감염병, 제 4 군감염병, 제 5 군감염병, 지정감염병, 세계보건기구 감시대상 감염병, 생물테러감염병, 성매개감염병, 인수(人獸)공통감염병 및 의료관련감염병을 말한다.
- 2. "제 1 군감염병"이란 마시는 물 또는 식품을 매개로 발생하고 집단 발생의 우려가 커서 발생 또는 유행 즉시 방역대책을 수립하여야 하는 다음 각 목의 감염병을 말한다.
  - 가. 콜레라
  - 나. 장티푸스
  - 다. 파라티푸스
  - 라. 세균성이질
  - 마. 장출혈성대장균감염증
  - 바. A 형간염
- 3. "제 2 군감염병"이란 예방접종을 통하여 예방 및 관리가 가능하여 국가예방접종사업의 대상이 되는 다음 각 목의 감염병을 말한다.
  - 가. 디프테리아
  - 나. 백일해(百日咳)
  - 다. 파상풍(破傷風)
  - 라. 홍역(紅疫)
  - 마. 유행성이하선염(流行性耳下腺炎)
  - 바. 풍진(風疹)
  - 사. 폴리오
  - 아. B 형간염
  - 자. 일본뇌염
  - 차. 수두(水痘)
- 4. "제 3 군감염병"이란 간헐적으로 유행할 가능성이 있어 계속 그 발생을 감시하고 방역대책의 수립이 필요한 다음 각 목의 감염병을 말한다.
  - 가. 말라리아
  - 나. 결핵(結核)
  - 다. 한센병
  - 라. 성홍열(猩紅熱)
  - 마. 수막구균성수막염(髓膜球菌性髓膜炎)
  - 바. 레지오넬라증

- 사. 비브리오패혈증
- 아. 발진티푸스
- 자. 발진열(發疹熱)
- 차. 쯔쯔가무시증
- 카. 렙토스피라증
- 타. 브루셀라증
- 파. 탄저(炭疽)
- 하. 공수병(恐水病)
- 거. 신증후군출혈열(腎症侯群出血熱)
- 너. 인플루엔자
- 더. 후천성면역결핍증(AIDS)
- 러. 매독(梅毒)
- 머. 크로이츠펠트-야콥병(CJD) 및 변종크로이츠펠트-야콥병(vCJD)

- 5. "제 4 군감염병"이란 국내에서 새롭게 발생하였거나 발생할 우려가 있는 감염병 또는 국내 유입이 우려되는 해외 유행 감염병으로서 보건복지가족부령으로 정하는 감염병을 말한다.
- 6. "제 5 군감염병"이란 기생충에 감염되어 발생하는 감염병으로서 정기적인 조사를 통한 감시가 필요하여 보건복지가족부령으로 정하는 감염병을 말한다.
- 7. "지정감염병"이란 제 1 군감염병부터 제 5 군감염병까지의 감염병 외에 유행 여부를 조사하기 위하여 감시활동이 필요하여 보건복지가족부장관이 지정하는 감염병을 말한다.
- 8. "세계보건기구 감시대상 감염병"이란 세계보건기구가 국제공중보건의 비상사태에 대비하기 위하여 감시대상으로 정한 질환으로서 보건복지가족부장관이 고시하는 감염병을 말한다.
- 9. "생물테러감염병"이란 고의 또는 테러 등을 목적으로 이용된 병원체에 의하여 발생된 감염병 중 보건복지가족부장관이 고시하는 감염병을 말한다.
- 10. "성매개감염병"이란 성 접촉을 통하여 전파되는 감염병 중 보건복지가족부장관이 고시하는 감염병을 말한다.
- 11. "인수공통감염병"이란 동물과 사람 간에 서로 전파되는 병원체에 의하여 발생되는 감염병 중 보건복지가족부장관이 고시하는 감염병을 말한다.
- 12. "의료관련감염병"이란 환자나 임산부 등이 의료행위를 적용받는 과정에서 발생한 감염병으로서 감시활동이 필요하여 보건복지가족부장관이 고시하는 감염병을 말한다.
- 13. "감염병환자"란 감염병의 병원체가 인체에 침입하여 증상을 나타내는 사람으로서 제 11 조제 5 항의 진단 기준에 따른 의사 또는 한의사의 진단이나 보건복지가족부령으로 정하는 기관의 실험실 검사를 통하여 확인된 사람을 말한다.
- 14. "감염병의사환자"란 감염병병원체가 인체에 침입한 것으로 의심이 되나 감염병환자로 확인되기 전 단계에 있는 사람을 말한다.
- 15. "병원체보유자"란 임상적인 증상은 없으나 감염병병원체를 보유하고 있는 사람을 말한다.
- 16. "감시"란 감염병 발생과 관련된 자료 및 매개체에 대한 자료를 체계적이고 지속적으로 수집, 분석 및 해석하고 그 결과를 제때에 필요한 사람에게 배포하여 감염병 예방 및 관리에 사용하도록 하는 일체의 과정을 말한다.
- 17. "역학조사"란 감염병환자, 감염병의사환자 또는 병원체보유자(이하 "감염병환자등"이라 한다)가 발생한 경우 감염병의 차단과 확산 방지 등을 위하여 감염병환자등의 발생 규모를 파악하고 감염원을 추적하는 등의 활동과 감염병 예방접종 후 이상반응 사례가 발생한 경우 그 원인을 규명하기 위하여 하는 활동을 말한다.

- 18. "예방접종 후 이상반응"이란 예방접종 후 그 접종으로 인하여 발생할 수 있는 모든 증상 또는 질병으로서 해당 예방접종과 시간적 관련성이 있는 것을 말한다.
- 19. "고위험병원체"란 생물테러의 목적으로 이용되거나 사고 등에 의하여 외부에 유출될 경우 국민 건강에 심각한 위험을 초래할 수 있는 감염병병원체로서 보건복지가족부령으로 정하는 것을 말한다.

제 3 조(다른 법률과의 관계)

감염병의 예방 및 관리에 관하여는 다른 법률에 특별한 규정이 있는 경우를 제외하고는 이 법에 따른다.

제 4 조(국가 및 지방자치단체의 책무)

국가 및 지방자치단체는 감염병환자등의 인간으로서의 존엄과 가치를 존중하고 그 기본적 권리를 보호하며, 법률에 따르지 아니하고는 취업 제한 등의 불이익을 주어서는 아니 된다.

국가 및 지방자치단체는 감염병의 예방 및 관리를 위하여 다음 각 호의 사업을 수행하여야 한다.

- 1. 감염병의 예방 및 방역대책
- 2. 감염병환자등의 진료 및 보호
- 3. 감염병 예방을 위한 예방접종계획의 수립 및 시행
- 4. 감염병에 관한 교육 및 홍보
- 5. 감염병에 관한 정보의 수집·분석 및 제공
- 6. 감염병에 관한 조사·연구
- 7. 감염병병원체 검사·보존·관리 및 약제내성 감시(藥劑耐性 監視)
- 8. 감염병 예방을 위한 전문인력의 양성
- 9. 감염병 관리정보 교류 등을 위한 국제협력
- 10. 감염병의 치료 및 예방을 위한 약품 등의 비축
- 11. 감염병 관리사업의 평가
- 12. 기후변화에 따른 감염병 발생조사·연구 및 예방대책 수립
- 13. 한센병의 예방 및 진료 업무를 수행하는 법인 또는 단체에 대한 지원

제 5 조(의료인 등의 책무)

「의료법」에 따른 의료인, 의료기관 및 의료인단체는 국가와 지방자치단체가 수행하는 감염병의 발생 감시 및 예방·관리 및 역학조사업무에 적극 협조하여야 한다.

제 6 조(국민의 책무와 권리)

국민은 국가와 지방자치단체의 감염병 예방 및 관리를 위한 활동에 적극 협조하여야 한다.

국민은 감염병 발생 상황, 감염병 예방 및 관리 등에 관한 정보와 대응방법을 알 권리가 있다.

제 2 장 기본계획 및 사업

제 7 조(감염병 예방 및 관리 계획의 수립 등)

보건복지가족부장관은 감염병의 예방 및 관리에 관한 기본계획(이하 "기본계획"이라 한다)을 5 년마다 수립・시행하여야 한다.

기본계획에는 다음 각 호의 사항이 포함되어야 한다.

- 1. 감염병 예방・관리의 기본목표 및 추진방향
- 2. 주요 감염병의 예방・관리에 관한 사업계획 및 추진방법
- 3. 전문인력의 양성 및 감염병 위기대응역량의 강화 방안
- 4. 감염병 통계 및 정보의 관리 방안
- 5. 그 밖에 감염병의 예방 및 관리에 필요한 사항

특별시장・광역시장・도지사・특별자치도지사(이하 "시・도지사"라 한다)와 시장・군수・구청장(자치구의 구청장을 말한다. 이하 같다)은 기본계획에 따라 시행계획을 수립・시행하여야 한다.

보건복지가족부장관, 시・도지사 또는 시장・군수・구청장은 기본계획이나 제 3 항에 따른 시행계획의 수립・시행에 필요한 자료의 제공 등을 관계 행정기관 또는 단체에 요청할 수 있다.

제 4 항에 따라 요청받은 관계 행정기관 또는 단체는 특별한 사유가 없으면 이에 따라야 한다.

제 8 조(감염병관리사업지원기구의 운영)

보건복지가족부장관 및 시・도지사는 제 7 조에 따른 기본계획 및 시행계획의 시행과 국제협력 등의 업무를 지원하기 위하여 민간전문가로 구성된 감염병관리사업지원기구를 둘 수 있다.

국가 및 지방자치단체는 감염병관리사업지원기구의 운영 등에 필요한 예산을 지원할 수 있다.

제 1 항 및 제 2 항에 따른 감염병관리사업지원기구의 설치・운영 및 지원 등에 필요한 사항은 대통령령으로 정한다.

제 9 조(감염병관리위원회)

감염병의 예방 및 관리에 관한 주요 시책을 심의하기 위하여 보건복지가족부에 감염병관리위원회(이하 "위원회"라 한다)를 둔다.

위원회는 다음 각 호의 사항을 심의한다.

- 1. 기본계획의 수립
- 2. 감염병 관련 의료 제공
- 3. 감염병에 관한 조사 및 연구
- 4. 감염병의 예방・관리 등에 관한 지식 보급 및 감염병환자등의 인권 증진
- 5. 제 20 조에 따른 해부명령에 관한 사항
- 6. 제 32 조제 2 항에 따른 예방접종의 실시기준과 방법에 관한 사항
- 7. 제 34 조에 따른 감염병 위기관리대책의 수립 및 시행
- 8. 제 40 조제 1 항 및 제 2 항에 따른 예방・치료 의약품 및 장비 등의 사전 비축, 장기 구매 및 생산에 관한 사항
- 9. 제 71 조에 따른 예방접종 등으로 인한 피해에 대한 국가보상에 관한 사항

- 10. 그 밖에 감염병의 예방 및 관리에 관한 사항으로서 위원장이 위원회의 회의에 부치는 사항

제 10 조(위원회의 구성)

위원회는 위원장 1 명과 부위원장 1 명을 포함하여 20 명 이내의 위원으로 구성한다.

위원장은 보건복지가족부차관이 되고, 부위원장은 위원 중에서 위원장이 지명하며, 위원은 다음 각 호의 어느 하나에 해당하는 사람 중에서 보건복지가족부장관이 임명하거나 위촉하는 사람으로 한다.

- 1. 감염병의 예방 또는 관리 업무를 담당하는 공무원
- 2. 감염병을 전공한 의료인
- 3. 감염병과 관련된 전문지식을 소유한 사람
- 4. 「비영리민간단체 지원법」 제 2 조에 따른 비영리민간단체가 추천하는 사람
- 5. 그 밖에 감염병에 관한 지식과 경험이 풍부한 사람

위원회의 업무를 효율적으로 수행하기 위하여 위원회의 위원과 외부 전문가로 구성되는 분야별 전문위원회를 둘 수 있다.

제 1 항부터 제 3 항까지에서 규정한 사항 외에 위원회 및 전문위원회의 구성・운영 등에 관하여 필요한 사항은 대통령령으로 정한다.

제 3 장 신고 및 보고

제 11 조(의사 등의 신고)

의사나 한의사는 다음 각 호의 어느 하나에 해당하는 사실(제 16 조제 5 항에 따라 표본감시 대상이 되는 감염병으로 인한 경우는 제외한다)이 있으면 소속 의료기관의 장에게 보고하여야 하고, 해당 환자와 그 동거인에게 보건복지가족부장관이 정하는 감염 방지 방법 등을 지도하여야 한다. 다만, 의료기관에 소속되지 아니한 의사 또는 한의사는 그 사실을 관할 보건소장에게 신고하여야 한다.

- 1. 감염병환자등을 진단하거나 그 사체를 검안(檢案)한 경우
- 2. 예방접종 후 이상반응자를 진단하거나 그 사체를 검안한 경우
- 3. 감염병환자등이 제 1 군감염병부터 제 4 군감염병까지에 해당하는 감염병으로 사망한 경우

제 1 항에 따라 보고를 받은 의료기관의 장은 제 1 군감염병부터 제 4 군감염병까지의 경우에는 지체 없이, 제 5 군감염병 및 지정감염병의 경우에는 7 일 이내에 관할 보건소장에게 신고하여야 한다.

육군, 해군, 공군 또는 국방부 직할 부대에 소속된 군의관은 제 1 항 각 호의 어느 하나에 해당하는 사실(제 16 조제 5 항에 따라 표본감시 대상이 되는 감염병으로 인한 경우는 제외한다)이 있으면 소속 부대장에게 보고하여야 하고, 보고를 받은 소속 부대장은 관할 보건소장에게 지체 없이 신고하여야 한다.

제 16 조제 1 항에 따른 감염병 표본감시기관은 제 16 조제 5 항에 따라 표본감시 대상이 되는 감염병으로 인하여 제 1 항제 1 호 또는 제 3 호에 해당하는 사실이 있으면 보건복지가족부령으로 정하는 바에 따라 보건복지가족부장관 또는 관할 보건소장에게 신고하여야 한다.

제 1 항부터 제 4 항까지의 규정에 따른 감염병환자등의 진단 기준, 신고의 방법 및 절차 등에 관하여 필요한 사항은 보건복지가족부령으로 정한다.

제 12 조(그 밖의 신고의무자)

다음 각 호의 어느 하나에 해당하는 사람은 제 1 군감염병 감염병환자등 또는 제 1 군감염병이나 그 의사증(擬似症)으로 인한 사망자가 있을 경우와 제 2 군감염병부터 제 4 군감염병까지에 해당하는 감염병 중 보건복지가족부령으로 정하는 감염병이 발생한 경우에는 의사나 한의사의 진단이나 검안을 요구하거나 해당 주소지를 관할하는 보건소장에게 신고하여야 한다.

- 1. 일반가정에서는 세대를 같이하는 세대주. 다만, 세대주가 부재 중인 경우에는 그 세대원
- 2. 학교, 병원, 관공서, 회사, 공연장, 예배장소, 선박・항공기・열차 등 운송수단, 각종 사무소・사업소, 음식점, 숙박업소 또는 그 밖에 여러 사람이 모이는 장소의 관리인, 경영자 또는 대표자

제 1 항에 따른 신고의무자가 아니더라도 감염병환자등 또는 감염병으로 인한 사망자로 의심되는 사람을 발견하면 보건소장에게 알려야 한다.

제 1 항에 따른 신고 및 제 2 항에 따른 통보의 방법과 절차 등에 관하여 필요한 사항은 보건복지가족부령으로 정한다.

제 13 조(보건소장 등의 보고)

제 11 조 및 제 12 조에 따라 신고를 받은 보건소장은 그 내용을 관할 특별자치도지사 또는 시장・군수・구청장에게 보고하여야 하며, 보고를 받은 특별자치도지사 또는 시장・군수・구청장은 이를 보건복지가족부장관 및 시・도지사에게 각각 보고하여야 한다.

제 1 항에 따른 보고의 방법 및 절차 등에 관하여 필요한 사항은 보건복지가족부령으로 정한다.

제 14 조(인수공통감염병의 통보)

「가축전염병예방법」 제 11 조제 1 항제 2 호에 따라 신고를 받은 특별자치도지사(특별자치도의 동지역에 한정된다)・시장(구를 두지 아니하는 시의 시장을 말하며, 도농복합형태의 시에 있어서는 가축 등의 소재지가 동지역인 경우에 한정된다)・구청장(도농복합형태의 시의 구에 있어서는 가축 등의 소재지가 동지역인 경우에 한정된다)・읍장 또는 면장은 같은 법에 따른 가축전염병 중 다음 각 호의 어느 하나에 해당하는 감염병의 경우에는 즉시 질병관리본부장에게 통보하여야 한다.

- 1. 탄저
- 2. 고병원성조류인플루엔자
- 3. 광견병
- 4. 그 밖에 대통령령으로 정하는 인수공통감염병

제 1 항에 따른 신고 또는 통보를 받은 행정기관의 장은 신고자의 요청이 있는 때에는 신고자의 신원을 외부에 공개하여서는 아니 된다.

제 1 항에 따른 통보의 방법 및 절차 등에 관하여 필요한 사항은 보건복지가족부령으로 정한다.

제 15 조(감염병환자등의 파악 및 관리)

보건소장은 관할구역에 거주하는 감염병환자등에 관하여 제 11 조 및 제 12 조에 따른 신고를 받았을 때에는 보건복지가족부령으로 정하는 바에 따라 기록하고 그 명부(전자문서를 포함한다)를 관리하여야 한다.

제 4 장 감염병감시 및 역학조사 등

제 16 조(감염병 표본감시 등)

보건복지가족부장관은 감염병 발생의 의과학적인 감시를 위하여 질병의 특성과 지역을 고려하여 「보건의료기본법」에 따른 보건의료기관이나 그 밖의 기관 또는 단체를 감염병 표본감시기관으로 지정할 수 있다.

보건복지가족부장관, 시・도지사 또는 시장・군수・구청장은 제 1 항에 따라 지정받은 감염병 표본감시기관(이하 "표본감시기관"이라 한다)의 장에게 감염병의 표본감시와 관련하여 필요한 자료의 제출을 요구하거나 감염병의 예방・관리에 필요한 협조를 요청할 수 있다. 이 경우 표본감시기관은 특별한 사유가 없으면 이에 따라야 한다.

보건복지가족부장관, 시・도지사 또는 시장・군수・구청장은 제 2 항에 따라 수집한 정보 중 국민 건강에 관한 중요한 정보를 관련 기관・단체・시설 또는 국민들에게 제공하여야 한다.

보건복지가족부장관, 시・도지사 또는 시장・군수・구청장은 표본감시활동에 필요한 경비를 표본감시기관에 지원할 수 있다.

제 1 항에 따른 표본감시의 대상이 되는 감염병 및 표본감시기관의 지정 등에 관하여 필요한 사항은 보건복지가족부령으로 정한다.

질병관리본부장은 감염병이 발생하거나 유행할 가능성이 있어 관련 정보를 확보할 긴급한 필요가 있다고 인정하는 경우 「공공기관의 운영에 관한 법률」에 따른 공공기관 중 대통령령으로 정하는 공공기관의 장에게 정보 제공을 요구할 수 있다. 이 경우 정보 제공을 요구받은 기관의 장은 정당한 사유가 없는 한 이에 따라야 한다.

제 6 항에 따라 제공되는 정보의 내용, 절차 및 정보의 취급에 필요한 사항은 대통령령으로 정한다.

제 17 조(실태조사)

보건복지가족부장관은 감염병의 관리 및 감염 실태를 파악하기 위하여 실태조사를 실시할 수 있다.

제 1 항에 따른 실태조사에 포함되어야 할 사항과 실태조사의 방법과 절차 등에 관하여 필요한 사항은 보건복지가족부령으로 정한다.

제 18 조(역학조사)

질병관리본부장, 시・도지사 또는 시장・군수・구청장은 감염병이 발생하여 유행할 우려가 있다고 인정하면 지체 없이 역학조사를 하여야 한다.

질병관리본부장, 시・도지사 또는 시장・군수・구청장은 역학조사를 하기 위하여 역학조사반을 각각 설치하여야 한다.

누구든지 질병관리본부장, 시・도지사 또는 시장・군수・구청장이 실시하는 역학조사를 정당한 사유 없이 거부 또는 방해하거나 회피하여서는 아니 된다.

제 1 항에 따른 역학조사의 내용과 시기・방법 및 제 2 항에 따른 역학조사반의 구성・임무 등에 관하여 필요한 사항은 대통령령으로 정한다.

제 19 조(건강진단)

성매개감염병의 예방을 위하여 종사자의 건강진단이 필요한 직업으로 보건복지가족부령으로 정하는 직업에 종사하는 자와 성매개감염병에 감염되어 그 전염을 매개할 상당한 우려가 있다고 시장・군수・구청장이 인정한 자는 보건복지가족부령으로 정하는 바에 따라 성매개감염병에 관한 건강진단을 받아야 한다.

제 20 조(해부명령)

질병관리본부장은 국민 건강에 중대한 위협을 미칠 우려가 있는 감염병으로 사망한 것으로 의심이 되어 시체를 해부(解剖)하지 아니하고는 감염병 여부의 진단과 사망의 원인규명을 할 수 없다고 인정하면 그 시체의 해부를 명할 수 있다.

제 1 항에 따라 해부를 하려면 미리 「장사 등에 관한 법률」 제 2 조제 16 호에 따른 연고자(같은 호 각 목에 규정된 선순위자가 없는 경우에는 그 다음 순위자를 말한다. 이하 "연고자"라 한다)의 동의를 받아야 한다. 다만, 소재불명 및 연락두절 등 미리 연고자의 동의를 받기 어려운 특별한 사정이 있고 해부가 늦어질 경우 감염병 예방과 국민 건강의 보호라는 목적을 달성하기 어렵다고 판단되는 경우에는 연고자의 동의를 받지 아니하고 해부를 명할 수 있다.

질병관리본부장은 감염병 전문의, 해부학, 병리학 또는 법의학을 전공한 사람을 해부를 담당하는 의사로 지정하여 해부를 하여야 한다.

제 3 항에 따른 해부는 사망자가 걸린 것으로 의심되는 감염병의 종류별로 보건복지가족부장관이 정하여 고시한 생물학적 안전 등급을 갖춘 시설에서 실시하여야 한다.

제 3 항에 따른 해부를 담당하는 의사의 지정, 감염병 종류별로 갖추어야 할 시설의 기준, 해당 시체의 관리 등에 관하여 필요한 사항은 보건복지가족부령으로 정한다.

제 5 장 고위험병원체

제 21 조(고위험병원체의 분리 및 이동 신고)

감염병환자, 식품, 동식물, 그 밖의 환경 등으로부터 고위험병원체를 분리하거나 이미 분리된 고위험병원체를 이동하려는 자는 지체 없이 고위험병원체의 명칭, 분리된 검체명, 분리 일시 또는 이동계획을 보건복지가족부장관에게 신고하여야 한다.

제 1 항에 따른 신고의 방법 및 절차 등에 관하여 필요한 사항은 보건복지가족부령으로 정한다.

제 22 조(고위험병원체의 반입 허가 등)

감염병의 진단 및 학술 연구 등을 목적으로 고위험병원체를 국내로 반입하려는 자는 대통령령으로 정하는 요건을 갖추어 보건복지가족부장관의 허가를 받아야 한다.

제 1 항에 따라 허가받은 사항을 변경하려는 자는 보건복지가족부장관의 허가를 받아야 한다. 다만, 대통령령으로 정하는 경미한 사항을 변경하려는 경우에는 보건복지가족부장관에게 신고하여야 한다.

제 1 항에 따라 고위험병원체의 반입 허가를 받은 자가 해당 고위험병원체를 인수하여 이동하려면 대통령령으로 정하는 바에 따라 그 인수 장소를 지정하고 제 21 조제 1 항에 따라 이동계획을 보건복지가족부장관에게 미리 신고하여야 한다.

제 1 항부터 제 3 항까지의 규정에 따른 허가 또는 신고의 방법과 절차 등에 관하여 필요한 사항은 보건복지가족부령으로 정한다.

제 23 조(고위험병원체의 안전관리)

고위험병원체를 검사, 보존, 관리 및 이동하려는 자는 그 검사, 보존, 관리 및 이동에 필요한 시설 및 장비 등에 대하여 보건복지가족부령으로 정하는 안전관리기준을 지켜야 한다.

보건복지가족부장관은 고위험병원체를 검사, 보존, 관리 및 이동하는 자가 제 1 항에 따른 안전관리기준을 지키고 있는지 여부 등을 점검할 수 있다.

제 1 항 및 제 2 항에서 규정한 사항 외에 고위험병원체의 검사, 보존, 관리 및 이동에 필요한 사항은 보건복지가족부령으로 정한다.

제 6 장 예방접종

제 24 조(정기예방접종)

특별자치도지사 또는 시장・군수・구청장은 다음 각 호의 질병에 대하여 관할 보건소를 통하여 정기예방접종(이하 "정기예방접종"이라 한다)을 실시하여야 한다.

- 1. 디프테리아
- 2. 폴리오
- 3. 백일해
- 4. 홍역
- 5. 파상풍
- 6. 결핵
- 7. B 형간염
- 8. 유행성이하선염
- 9. 풍진
- 10. 수두
- 11. 일본뇌염
- 12. 그 밖에 보건복지가족부장관이 감염병의 예방을 위하여 필요하다고 인정하여 지정하는 감염병

특별자치도지사 또는 시장・군수・구청장은 제 1 항에 따른 정기예방접종업무를 대통령령으로 정하는 바에 따라 관할구역 안에 있는 「의료법」에 따른 의료기관에 위탁할 수 있다.

제 25 조(임시예방접종)

특별자치도지사 또는 시장・군수・구청장은 다음 각 호의 어느 하나에 해당하면 관할 보건소를 통하여 임시예방접종(이하 "임시예방접종"이라 한다)을 하여야 한다.

- 1. 보건복지가족부장관이 감염병 예방을 위하여 특별자치도지사 또는 시장・군수・구청장에게 예방접종을 실시할 것을 요청한 경우
- 2. 특별자치도지사 또는 시장・군수・구청장이 감염병 예방을 위하여 예방접종이 필요하다고 인정하는 경우

제 1 항에 따른 임시예방접종업무의 위탁에 관하여는 제 24 조제 2 항을 준용한다.

제 26 조(예방접종의 공고)

특별자치도지사 또는 시장・군수・구청장은 임시예방접종을 할 경우에는 예방접종의 일시 및 장소, 예방접종의 종류, 예방접종을 받을 사람의 범위를 정하여 미리 공고하여야 한다. 다만, 제 32 조제 2 항에 따른 예방접종의 실시기준 등이 변경될 경우에는 그 변경 사항을 미리 공고하여야 한다.

제 27 조(예방접종증명서)

특별자치도지사 또는 시장·군수·구청장은 정기예방접종 또는 임시예방접종을 받은 사람에게 보건복지가족부령으로 정하는 바에 따라 예방접종증명서를 발급하여야 한다.

특별자치도지사나 시장·군수·구청장이 아닌 자가 이 법에 따른 예방접종을 한 때에는 특별자치도지사 또는 시장·군수·구청장은 보건복지가족부령으로 정하는 바에 따라 해당 예방접종을 한 자로 하여금 예방접종증명서를 발급하게 할 수 있다.

제 1 항 및 제 2 항에 따른 예방접종증명서는 전자문서를 이용하여 발급할 수 있다.

제 28 조(예방접종 기록의 보존 및 보고 등)

특별자치도지사 또는 시장·군수·구청장은 정기예방접종 및 임시예방접종을 하거나, 제 2 항에 따라 보고를 받은 경우에는 보건복지가족부령으로 정하는 바에 따라 예방접종에 관한 기록을 작성·보관하여야 하고, 그 내용을 시·도지사 및 보건복지가족부장관에게 각각 보고하여야 한다.

특별자치도지사나 시장·군수·구청장이 아닌 자가 이 법에 따른 예방접종을 하면 보건복지가족부령으로 정하는 바에 따라 특별자치도지사 또는 시장·군수·구청장에게 보고하여야 한다.

제 29 조(예방접종에 관한 역학조사)

질병관리본부장, 시·도지사 또는 시장·군수·구청장은 다음 각 호의 구분에 따라 조사를 실시하고, 예방접종 후 이상반응 사례가 발생하면 그 원인을 밝히기 위하여 제 18 조에 따라 역학조사를 하여야 한다.

- 1. 질병관리본부장: 예방접종의 효과 및 예방접종 후 이상반응에 관한 조사
- 2. 시·도지사 또는 시장·군수·구청장: 예방접종 후 이상반응에 관한 조사

제 30 조(예방접종피해조사반)

제 71 조제 1 항 및 제 2 항에 규정된 예방접종으로 인한 질병·장애·사망의 원인 규명 및 피해 보상 등을 조사하고 제 72 조제 1 항에 따른 제 3 자의 고의 또는 과실 유무를 조사하기 위하여 질병관리본부에 예방접종피해조사반을 둔다.

제 1 항에 따른 예방접종피해조사반의 설치 및 운영 등에 관하여 필요한 사항은 대통령령으로 정한다.

제 31 조(예방접종 완료 여부의 확인)

특별자치도지사 또는 시장·군수·구청장은 초등학교와 중학교의 장에게 「학교보건법」 제 10 조에 따른 예방접종 완료 여부에 대한 검사 기록을 제출하도록 요청할 수 있다.

특별자치도지사 또는 시장·군수·구청장은 「유아교육법」에 따른 유치원의 장과 「영유아보육법」에 따른 보육시설의 장에게 보건복지가족부령으로 정하는 바에 따라 영유아의 예방접종 여부를 확인하도록 요청할 수 있다.

특별자치도지사 또는 시장·군수·구청장은 제 1 항에 따른 제출 기록 및 제 2 항에 따른 확인 결과를 확인하여 예방접종을 끝내지 못한 영유아, 학생 등이 있으면 그 영유아 또는 학생 등에게 예방접종을 하여야 한다.

제 32 조(예방접종의 실시주간 및 실시기준 등)

보건복지가족부장관은 국민의 예방접종에 대한 관심을 높여 감염병에 대한 예방접종을 활성화하기 위하여 예방접종주간을 설정할 수 있다.

예방접종의 실시기준과 방법 등에 관하여 필요한 사항은 보건복지가족부령으로 정한다.

제 33 조(예방접종약품의 계획 생산)

보건복지가족부장관은 예산의 범위에서 감염병의 예방접종에 필요한 수량의 예방접종약품을 미리 계산하여 「약사법」 제 31 조에 따른 의약품 제조업자(이하 "의약품 제조업자"라 한다)에게 생산하게 할 수 있으며, 예방접종약품을 연구하는 자 등을 지원할 수 있다.

보건복지가족부장관은 보건복지가족부령으로 정하는 바에 따라 제 1 항에 따른 예방접종약품의 생산에 드는 비용의 전부 또는 일부를 해당 의약품 제조업자에게 미리 지급할 수 있다.

7 장 감염 전파의 차단 조치

제 34 조(감염병 위기관리대책의 수립・시행)

보건복지가족부장관은 감염병의 확산으로 인한 재난상황에 대처하기 위하여 위원회의 심의를 거쳐 감염병 위기관리대책(이하 "감염병 위기관리대책"이라 한다)을 수립・시행하여야 한다.

감염병 위기관리대책에는 다음 각 호의 사항이 포함되어야 한다.

- 1. 재난상황 발생 현장 대응체계 및 기관별 역할
- 2. 재난상황의 판단 및 의사결정체계
- 3. 대량 의료 지원 등 의료용품의 비축 방안 및 조달 방안
- 4. 재난상황별 국민행동요령 등 교육・훈련 방안
- 5. 그 밖에 재난상황의 극복을 위하여 필요하다고 보건복지가족부장관이 인정하는 사항

감염병 위기관리대책의 수립 및 시행 등에 필요한 사항은 대통령령으로 정한다.

제 35 조(시・도별 감염병 위기관리대책의 수립 등)

보건복지가족부장관은 제 34 조제 1 항에 따라 수립한 감염병 위기관리대책을 시・도지사에게 알려야 한다.

시・도지사는 제 1 항에 따라 통보된 감염병 위기관리대책에 따라
특별시・광역시・도・특별자치도(이하 "시・도"라 한다)별 감염병 위기관리대책을 수립・시행하여야 한다.

제 36 조(감염병관리기관의 지정 등)

시・도지사 또는 시장・군수・구청장은 보건복지가족부령으로 정하는 바에 따라 「의료법」에 따른 의료기관을 감염병관리기관으로 지정할 수 있다.

제 1 항에 따라 지정받은 의료기관(이하 "감염병관리기관"이라 한다)의 장은 보건복지가족부령으로 정하는 바에 따라 감염병을 예방하고 감염병환자등을 진료하는 시설(이하 "감염병관리시설"이라 한다)을 설치하여야 한다.

시・도지사 또는 시장・군수・구청장은 감염병관리시설의 설치 및 운영에 드는 비용을 감염병관리기관에 지원하여야 한다.

감염병관리기관이 아닌 의료기관이 감염병관리시설을 설치・운영하려면 보건복지가족부령으로 정하는 바에 따라 특별자치도지사 또는 시장・군수・구청장에게 신고하여야 한다.

제 37 조(감염병위기 시 감염병관리기관의 설치 등)

보건복지가족부장관, 시・도지사 또는 시장・군수・구청장은 감염병환자가 대량으로 발생하거나 제 36 조에 따라 지정된 감염병관리기관만으로 감염병환자등을 모두 수용하기 어려운 경우에는 다음 각 호의 조치를 취할 수 있다.

- 1. 제 36 조에 따라 지정된 감염병관리기관이 아닌 의료기관을 일정 기간 동안 감염병관리기관으로 지정
- 2. 격리소・요양소 또는 진료소의 설치・운영

제 1 항제 1 호에 따라 지정된 감염병관리기관의 장은 보건복지가족부령으로 정하는 바에 따라 감염병관리시설을 설치하여야 한다.

보건복지가족부장관, 시・도지사 또는 시장・군수・구청장은 제 2 항에 따른 시설의 설치 및 운영에 드는 비용을 감염병관리기관에 지원하여야 한다.

제 1 항제 1 호에 따라 지정된 감염병관리기관의 장은 정당한 사유없이 제 2 항의 명령을 거부할 수 없다.

제 38 조(감염병환자등의 입소 거부 금지)

감염병관리기관은 정당한 사유 없이 감염병환자등의 입소(入所)를 거부할 수 없다.

제 39 조(감염병관리시설 등의 설치 및 관리방법)

감염병관리시설 및 제 37 조에 따른 격리소・요양소 또는 진료소의 설치 및 관리방법 등에 관하여 필요한 사항은 보건복지가족부령으로 정한다.

제 40 조(생물테러감염병 등에 대비한 의약품 및 장비의 비축)

보건복지가족부장관은 생물테러감염병 및 그 밖의 감염병의 대유행이 우려되면 위원회의 심의를 거쳐 예방・치료 의약품 및 장비 등의 품목을 정하여 미리 비축하거나 장기 구매를 위한 계약을 미리 할 수 있다.

보건복지가족부장관은 「약사법」 제 31 조에도 불구하고 생물테러감염병이나 그 밖의 감염병의 대유행이 우려되면 예방・치료 의약품을 정하여 의약품 제조업자에게 생산하게 할 수 있다.

보건복지가족부장관은 제 2 항에 따른 예방・치료 의약품의 효과와 이상반응에 관하여 조사하고, 이상반응 사례가 발생하면 제 18 조에 따라 역학조사를 하여야 한다.

제 41 조(감염병환자등의 관리)

감염병 중 특히 전파 위험이 높은 감염병으로서 보건복지가족부장관이 고시한 감염병에 걸린 감염병환자등은 감염병관리기관에서 입원치료를 받아야 한다.

보건복지가족부장관, 시・도지사 또는 시장・군수・구청장은 감염병관리기관의 병상(病床)이 포화상태에 이르러 감염병환자등을 수용하기 어려운 경우에는 감염병관리기관이 아닌 다른 의료기관에서 입원치료하게 할 수 있다.

보건복지가족부장관, 시・도지사 또는 시장・군수・구청장은 다음 각 호의 어느 하나에 해당하는 사람에게 자가(自家) 또는 감염병관리시설에서 치료하게 할 수 있다.

- 1. 제 1 항 및 제 2 항에 따른 입원치료 대상자가 아닌 사람
- 2. 감염병환자등과 접촉하여 감염병이 감염되거나 전파될 우려가 있는 사람

제 1 항부터 제 3 항까지의 규정에 따른 자가치료 및 입원치료의 방법 및 절차 등에 관하여 필요한 사항은 대통령령으로 정한다.

제 42 조(감염병에 관한 강제처분)

보건복지가족부장관, 시・도지사 또는 시장・군수・구청장은 해당 공무원으로 하여금 다음 각 호의 어느 하나에 해당하는 감염병환자등이 있다고 인정되는 주거시설, 선박・항공기・열차 등 운송수단 또는 그 밖의 장소에 들어가 필요한 조사나 진찰을 하게 할 수 있으며, 그 진찰 결과 감염병환자등으로 인정될 때에는 동행하여 치료받게 하거나 입원시킬 수 있다.

- 1. 제 1 군감염병
- 2. 제 2 군감염병 중 디프테리아, 홍역 및 폴리오
- 3. 제 3 군감염병 중 결핵, 성홍열 및 수막구균성수막염
- 4. 제 4 군감염병 중 보건복지가족부장관이 정하는 감염병
- 5. 세계보건기구 감시대상 감염병
- 6. 생물테러감염병

제 1 항에 따라 조사・진찰을 하는 공무원은 그 권한을 증명하는 증표를 지니고 이를 관계인에게 보여주어야 한다.

제 43 조(감염병환자등의 입원 통지)

보건복지가족부장관, 시・도지사 또는 시장・군수・구청장은 감염병환자등이 제 41 조에 따른 입원치료가 필요한 경우에는 그 사실을 입원치료 대상자와 그 보호자에게 통지하여야 한다.

제 1 항에 따른 통지의 방법・절차 등에 관하여 필요한 사항은 보건복지가족부령으로 정한다.

제 44 조(수감 중인 환자의 관리)

교도소장은 수감자로서 감염병에 감염된 자에게 감염병의 전파를 차단하기 위한 조치와 적절한 의료를 제공하여야 한다.

제 45 조(업무 종사의 일시 제한)

감염병환자등은 보건복지가족부령으로 정하는 바에 따라 업무의 성질상 일반인과 접촉하는 일이 많은 직업에 종사할 수 없고, 누구든지 감염병환자등을 그러한 직업에 고용할 수 없다.

제 19 조에 따른 성매개감염병에 관한 건강진단을 받아야 할 자가 건강진단을 받지 아니한 때에는 같은 조에 따른 직업에 종사할 수 없으며 해당 영업을 영위하는 자는 건강진단을 받지 아니한 자를 그 영업에 종사하게 하여서는 아니 된다.

제 46 조(건강진단 및 예방접종 등의 조치)

특별자치도지사 또는 시장・군수・구청장은 보건복지가족부령으로 정하는 바에 따라 다음 각 호의 어느 하나에 해당하는 사람에게 건강진단을 받거나 감염병 예방에 필요한 예방접종을 받게 하는 등의 조치를 할 수 있다.

- 1. 감염병환자등의 가족 또는 그 동거인
- 2. 감염병 발생지역에 거주하는 사람 또는 그 지역에 출입하는 사람으로서 감염병에 감염되었을 것으로 의심되는 사람
- 3. 감염병환자등과 접촉하여 감염병에 감염되었을 것으로 의심되는 사람

제 47 조(감염병 유행에 대한 방역 조치)

특별자치도지사 또는 시장・군수・구청장은 감염병이 유행하면 감염병 전파를 막기 위하여 다음 각 호에 해당하는 모든 조치를 하거나 그에 필요한 일부 조치를 하여야 한다.

- 1. 감염병환자등이 있는 장소나 감염병병원체에 오염되었다고 인정되는 장소의 교통을 일정한 기간 차단하는 것
- 2. 감염병병원체에 감염되었다고 의심되는 사람을 적당한 장소에 일정한 기간 입원 또는 격리시키는 것
- 3. 감염병병원체에 오염되었거나 오염되었다고 의심되는 물건을 사용・접수・이동하거나 버리는 행위 또는 해당 물건의 세척을 금지하거나 태우거나 폐기처분하는 것
- 4. 감염병병원체에 오염된 장소에 대한 소독이나 그 밖에 필요한 조치를 명하는 것
- 5. 일정한 장소에서 세탁하는 것을 막거나 오물을 일정한 장소에서 처리하도록 명하는 것

제 48 조(오염장소 등의 소독 조치)

육군・해군・공군 소속 부대의 장, 국방부직할부대의 장 및 제 12 조제 1 항 각 호의 어느 하나에 해당하는 사람은 감염병환자등이 발생한 장소나 감염병병원체에 오염되었다고 의심되는 장소에 대하여 의사, 한의사 또는 관계 공무원의 지시에 따라 소독이나 그 밖에 필요한 조치를 하여야 한다.

제 1 항에 따른 소독 등의 조치에 관하여 필요한 사항은 보건복지가족부령으로 정한다.

제 8 장 예방 조치

제 49 조(감염병의 예방 조치)

시・도지사 또는 시장・군수・구청장은 감염병을 예방하기 위하여 다음 각 호에 해당하는 모든 조치를 하거나 그에 필요한 일부 조치를 하여야 한다.

- 1. 관할 지역에 대한 교통의 전부 또는 일부를 차단하는 것
- 2. 흥행, 집회, 제례 또는 그 밖의 여러 사람의 집합을 제한하거나 금지하는 것
- 3. 건강진단, 시체 검안 또는 해부를 실시하는 것
- 4. 감염병 전파의 위험성이 있는 음식물의 판매・수령을 금지하거나 그 음식물의 폐기나 그 밖에 필요한 처분을 명하는 것
- 5. 인수공통감염병 예방을 위하여 살처분(殺處分)에 참여한 사람 또는 인수공통감염병에 드러난 사람 등에 대한 예방조치를 명하는 것

- 6. 감염병 전파의 매개가 되는 물건의 소지・이동을 제한・금지하거나 그 물건에 대하여 폐기, 소각 또는 그 밖에 필요한 처분을 명하는 것
- 7. 선박・항공기・열차 등 운송 수단, 사업장 또는 그 밖에 여러 사람이 모이는 장소에 의사를 배치하거나 감염병 예방에 필요한 시설의 설치를 명하는 것
- 8. 공중위생에 관계있는 시설 또는 장소에 대한 소독이나 그 밖에 필요한 조치를 명하거나 상수도・하수도・우물・쓰레기장・화장실의 신설・개조・변경・폐지 또는 사용을 금지하는 것
- 9. 쥐, 위생해충 또는 그 밖의 감염병 매개동물의 구제(驅除) 또는 구제시설의 설치를 명하는 것
- 10. 일정한 장소에서의 어로(漁撈)・수영 또는 일정한 우물의 사용을 제한하거나 금지하는 것
- 11. 감염병 매개의 중간 숙주가 되는 동물류의 포획 또는 생식을 금지하는 것
- 12. 감염병 유행기간 중 의료업자나 그 밖에 필요한 의료관계요원을 동원하는 것
- 13. 감염병병원체에 오염된 건물에 대한 소독이나 그 밖에 필요한 조치를 명하는 것
- 14. 감염병병원체에 감염되었다고 의심되는 자를 적당한 장소에 일정한 기간 입원 또는 격리시키는 것

시・도지사 또는 시장・군수・구청장은 제 1 항제 8 호 및 제 10 호에 따라 식수를 사용하지 못하게 하려면 그 사용금지기간 동안 별도로 식수를 공급하여야 하며,
제 1 항제 1 호・제 2 호・제 6 호・제 8 호・제 10 호 및 제 11 호에 따른 조치를 하려면 그 사실을 주민에게 미리 알려야 한다.

제 50 조(그 밖의 감염병 예방 조치)

육군・해군・공군 소속 부대의 장,국방부직할부대의 장 및 제 12 조제 1 항제 2 호에 해당하는 사람은 감염병환자등이 발생하였거나 발생할 우려가 있으면 소독이나 그 밖에 필요한 조치를 하여야 하고,
특별자치도지사 또는 시장・군수・구청장과 협의하여 감염병 예방에 필요한 추가 조치를 하여야 한다.

제 51 조(소독 의무)

특별자치도지사 또는 시장・군수・구청장은 감염병을 예방하기 위하여 보건복지가족부령으로 정하는 바에 따라 청소나 소독을 실시하거나 쥐, 위생해충 등의 구제조치(이하 "소독"이라 한다)를 하여야 한다.

공동주택, 숙박업소 등 여러 사람이 거주하거나 이용하는 시설 중 대통령령으로 정하는 시설을 관리・운영하는 자는 보건복지가족부령으로 정하는 바에 따라 감염병 예방에 필요한 소독을 하여야 한다.

제 2 항에 따라 소독을 하여야 하는 시설의 관리・운영자는 제 52 조제 1 항에 따라 소독업의 신고를 한 자에게 소독하게 하여야 한다. 다만, 「주택법」에 따른 주택관리업자가 제 52 조제 1 항에 따른 소독장비를 갖추었을 때에는 그가 관리하는 공동주택은 직접 소독할 수 있다.

제 52 조(소독업의 신고 등)

소독을 업으로 하려는 자(제 51 조제 3 항 단서에 따른 주택관리업자는 제외한다)는 보건복지가족부령으로 정하는 시설・장비 및 인력을 갖추어 특별자치도지사 또는 시장・군수・구청장에게 신고하여야 한다. 신고한 사항을 변경하려는 경우에도 또한 같다.

특별자치도지사 또는 시장・군수・구청장은 제 1 항에 따라 소독업의 신고를 한 자(이하 "소독업자"라 한다)가 다음 각 호의 어느 하나에 해당하면 소독업 신고가 취소된 것으로 본다.

- 1. 「부가가치세법」 제 5 조제 5 항에 따라 관할 세무서장에게 폐업 신고를 한 경우
- 2. 「부가가치세법」 제 5 조제 6 항에 따라 관할 세무서장이 사업자등록을 말소한 경우

- 3. 제 53 조에 따른 휴업이나 폐업 신고를 하지 아니하고 소독업에 필요한 시설 등이 없어진 상태가 6 개월 이상 계속된 경우

제 53 조(소독업의 휴업 등의 신고)

소독업자가 그 영업을 30 일 이상 휴업하거나 폐업 또는 재개업하려면 보건복지가족부령으로 정하는 바에 따라 특별자치도지사 또는 시장・군수・구청장에게 신고하여야 한다.

제 54 조(소독의 실시 등)

소독업자는 보건복지가족부령으로 정하는 기준과 방법에 따라 소독하여야 한다.

소독업자가 소독하였을 때에는 보건복지가족부령으로 정하는 바에 따라 그 소독에 관한 사항을 기록・보존하여야 한다.

제 55 조(소독업자 등에 대한 교육)

소독업자(법인인 경우에는 그 대표자를 말한다. 이하 이 조에서 같다)는 소독에 관한 교육을 받아야 한다.

소독업자는 소독업무 종사자에게 소독에 관한 교육을 받게 하여야 한다.

제 1 항 및 제 2 항에 따른 교육의 내용과 방법, 교육시간, 교육비 부담 등에 관하여 필요한 사항은 보건복지가족부령으로 정한다.

제 56 조(소독업무의 대행)

특별자치도지사 또는 시장・군수・구청장은 제 47 조제 4 호, 제 48 조제 1 항, 제 49 조제 1 항제 8 호・제 9 호・제 13 호, 제 50 조 및 제 51 조제 1 항・제 2 항에 따라 소독을 실시하여야 할 경우에는 그 소독업무를 소독업자가 대행하게 할 수 있다.

제 57 조(서류제출 및 검사 등)

특별자치도지사 또는 시장・군수・구청장은 소속 공무원으로 하여금 소독업자에게 소독의 실시에 관한 관계 서류의 제출을 요구하게 하거나 검사 또는 질문을 하게 할 수 있다.

제 1 항에 따라 서류제출을 요구하거나 검사 또는 질문을 하려는 소속 공무원은 그 권한을 표시하는 증표를 지니고 이를 관계인에게 보여주어야 한다.

제 58 조(시정명령)

특별자치도지사 또는 시장・군수・구청장은 소독업자가 다음 각 호의 어느 하나에 해당하면 1 개월 이상의 기간을 정하여 그 위반 사항을 시정하도록 명하여야 한다.

- 1. 제 52 조제 1 항에 따른 시설・장비 및 인력 기준을 갖추지 못한 경우
- 2. 제 55 조제 1 항에 따른 교육을 받지 아니하거나 소독업무 종사자에게 같은 조 제 2 항에 따른 교육을 받게 하지 아니한 경우

제 59 조(영업정지 등)

특별자치도지사 또는 시장・군수・구청장은 소독업자가 다음 각 호의 어느 하나에 해당하면 영업소의 폐쇄를 명하거나 6 개월 이내의 기간을 정하여 영업의 정지를 명할 수 있다. 다만, 제 5 호에 해당하는 경우에는 영업소의 폐쇄를 명하여야 한다.

- 1. 제 52 조제 1 항 후단에 따른 변경 신고를 하지 아니하거나 제 53 조에 따른 휴업, 폐업 또는 재개업 신고를 하지 아니한 경우
- 2. 제 54 조제 1 항에 따른 소독의 기준과 방법에 따르지 아니하고 소독을 실시하거나 같은 조 제 2 항을 위반하여 소독실시 사항을 기록・보존하지 아니한 경우
- 3. 제 57 조에 따른 관계 서류의 제출 요구에 따르지 아니하거나 소속 공무원의 검사 및 질문을 거부・방해 또는 기피한 경우
- 4. 제 58 조에 따른 시정명령에 따르지 아니한 경우
- 5. 영업정지기간 중에 소독업을 한 경우

특별자치도지사・시장・군수・구청장은 제 1 항에 따른 영업소의 폐쇄명령을 받고도 계속하여 영업을 하거나 제 52 조제 1 항에 따른 신고를 하지 아니하고 소독업을 하는 경우에는 관계 공무원에게 해당 영업소를 폐쇄하기 위한 다음 각 호의 조치를 하게 할 수 있다.

- 1. 해당 영업소의 간판이나 그 밖의 영업표지 등의 제거・삭제
- 2. 해당 영업소가 적법한 영업소가 아님을 알리는 게시물 등의 부착

제 1 항에 따른 행정처분의 기준은 그 위반행위의 종류와 위반 정도 등을 고려하여 보건복지가족부령으로 정한다.

제 9 장 방역관, 검역위원 및 예방위원 등

제 60 조(방역관 등)

감염병 예방에 관한 업무를 처리하기 위하여 보건복지가족부 또는 시・도에 방역관을 둔다.

감염병 역학조사에 관한 사무를 처리하기 위하여 보건복지가족부 또는 시・도에 역학조사관을 둘 수 있다.

제 1 항에 따른 방역관 및 제 2 항에 따른 역학조사관의 자격, 직무 및 배치 등에 관하여 필요한 사항은 대통령령으로 정한다.

제 61 조(검역위원)

시・도지사는 감염병을 예방하기 위하여 필요하면 검역위원을 두고 검역에 관한 사무를 담당하게 하며, 특별히 필요하면 운송수단 등을 검역하게 할 수 있다.

검역위원은 제 1 항에 따른 사무나 검역을 수행하기 위하여 운송수단 등에 무상으로 승선하거나 승차할 수 있다.

제 1 항에 따른 검역위원의 임명 및 직무 등에 관하여 필요한 사항은 보건복지가족부령으로 정한다.

제 62 조(예방위원)

특별자치도지사 또는 시장・군수・구청장은 감염병이 유행하거나 유행할 우려가 있으면 특별자치도 또는 시・군・구(자치구를 말한다. 이하 같다)에 감염병 예방 사무를 담당하는 예방위원을 둘 수 있다.

제 1 항에 따른 예방위원은 무보수로 한다. 다만, 특별자치도 또는 시・군・구의 인구 2 만명당 1 명의 비율로 유급위원을 둘 수 있다.

제 1 항에 따른 예방위원의 임명 및 직무 등에 관하여 필요한 사항은 보건복지가족부령으로 정한다.

제 63 조(한국건강관리협회)

제 5 군감염병에 관한 조사・연구 등 제 5 군감염병의 예방사업을 수행하기 위하여 한국건강관리협회(이하 "협회"라 한다)를 둔다.

협회는 법인으로 한다.

협회에 관하여는 이 법에서 정한 사항 외에는 「민법」 중 사단법인에 관한 규정을 준용한다.

제 10 장 경비

제 64 조(특별자치도・시・군・구가 부담할 경비)

다음 각 호의 경비는 특별자치도와 시・군・구가 부담한다.

- 1. 제 4 조제 2 항제 13 호에 따른 한센병의 예방 및 진료 업무를 수행하는 법인 또는 단체에 대한 지원 경비의 일부
- 2. 제 24 조제 1 항 및 제 25 조제 1 항에 따른 예방접종에 드는 경비
- 3. 제 24 조제 2 항 및 제 25 조제 2 항에 따라 의료기관이 예방접종을 하는 데 드는 경비의 전부 또는 일부
- 4. 제 36 조에 따라 특별자치도지사 또는 시장・군수・구청장이 지정한 감염병관리기관의 감염병관리시설의 설치・운영에 드는 경비
- 5. 제 37 조에 따라 특별자치도지사 또는 시장・군수・구청장이 설치한 격리소・요양소 또는 진료소 및 같은 조에 따라 지정된 감염병관리기관의감염병관리시설 설치・운영에 드는 경비
- 6. 제 47 조제 1 호 및 제 2 호에 따른 교통 차단 또는 입원으로 인하여 생업이 어려운 사람에 대한 「국민기초생활 보장법」에 따른 최저생계비 지원
- 7. 제 47 조, 제 48 조, 제 49 조제 1 항제 8 호・제 9 호・제 13 호 및 제 51 조제 1 항에 따라 특별자치도・시・군・구에서 실시하는 소독이나 그 밖의 조치에 드는 경비
- 8. 제 49 조제 1 항제 7 호 및 제 12 호에 따른 의사의 배치 및 의료업자 등의 동원을 위한 수당・치료비 또는 조제료
- 9. 제 49 조제 2 항에 따른 식수 공급에 드는 경비
- 10. 제 62 조에 따른 예방위원의 배치에 드는 경비
- 11. 그 밖에 이 법에 따라 특별자치도・시・군・구가 실시하는 감염병 예방 사무에 필요한 경비

제 65 조(시・도가 부담할 경비)

다음 각 호의 경비는 시・도가 부담한다.

- 1. 제 4 조제 2 항제 13 호에 따른 한센병의 예방 및 진료 업무를 수행하는 법인 또는 단체에 대한 지원 경비의 일부
- 2. 제 36 조에 따라 시・도지사가 지정한 감염병관리기관의 감염병관리시설의 설치・운영에 드는 경비
- 3. 제 37 조에 따른 시・도지사가 설치한 격리소・요양소 또는 진료소 및 같은 조에 따라 지정된 감염병관리기관의감염병관리시설 설치・운영에 드는 경비
- 4. 제 41 조 및 제 42 조에 따라 내국인 감염병환자등의 입원치료, 조사, 진찰 등에 드는 경비
- 5. 제 46 조에 따른 건강진단, 예방접종 등에 드는 경비

- 6. 제 49 조제 1 항제 1 호에 따른 교통 차단으로 생업이 어려운 자에 대한 「국민기초생활 보장법」에 따른 최저생계비 지원
- 7. 제 49 조제 2 항에 따른 식수 공급에 드는 경비
- 8. 제 61 조에 따른 검역위원의 배치에 드는 경비
- 9. 그 밖에 이 법에 따라 시・도가 실시하는 감염병 예방 사무에 필요한 경비

제 66 조(시・도가 보조할 경비)

시・도(특별자치도는 제외한다)는 제 64 조에 따라 시・군・구가 부담할 경비에 관하여 대통령령으로 정하는 바에 따라 보조하여야 한다.

제 67 조(국고 부담 경비)

다음 각 호의 경비는 국가가 부담한다.

- 1. 제 4 조제 2 항제 2 호에 따른 감염병환자등의 진료 및 보호에 드는 경비
- 2. 제 4 조제 2 항제 4 호에 따른 감염병 교육 및 홍보를 위한 경비
- 3. 제 4 조제 2 항제 8 호에 따른 감염병 예방을 위한 전문인력의 양성에 드는 경비
- 4. 제 16 조제 4 항에 따른 표본감시활동에 드는 경비
- 5. 제 20 조에 따른 해부에 필요한 시체의 운송과 해부 후 처리에 드는 경비
- 6. 제 33 조에 따른 예방접종약품의 생산 및 연구 등에 드는 경비
- 7. 제 37 조에 따라 보건복지가족부장관이 설치한 격리소・요양소 또는 진료소 및 같은 조에 따라 지정된 감염병관리기관의감염병관리시설 설치・운영에 드는 경비
- 8. 제 40 조제 1 항에 따라 위원회의 심의를 거친 품목의 비축 또는 장기구매를 위한 계약에 드는 경비
- 9. 제 41 조 및 제 42 조에 따라 외국인 감염병환자등의 입원치료, 조사, 진찰 등에 드는 경비
- 10. 제 71 조에 따른 예방접종 등으로 인한 피해보상을 위한 경비

제 68 조(국가가 보조할 경비)

국가는 다음 각 호의 경비를 보조하여야 한다.

- 1. 제 4 조제 2 항제 13 호에 따른 한센병의 예방 및 진료 업무를 수행하는 법인 또는 단체에 대한 지원 경비의 일부
- 2. 제 65 조 및 제 66 조에 따라 시・도가 부담할 경비의 2 분의 1 이상

제 69 조(본인으로부터 징수할 수 있는 경비)

특별자치도지사 또는 시장・군수・구청장은 보건복지가족부령으로 정하는 바에 따라 제 41 조 및 제 42 조에 따른 입원치료비 외에 본인의 지병이나 본인에게 새로 발병한 질환 등으로 입원, 진찰, 검사 및 치료 등에 드는 경비를 본인이나 그 보호자로부터 징수할 수 있다.

제 70 조(손실보상)

보건복지가족부장관, 시・도지사 및 시장・군수・구청장은 제 37 조에 따라 의료기관이 감염병관리시설로 사용됨에 따라 손해를 입은 해당 의료기관의 경영자와 제 49 조제 1 항제 13 호에 따른 소독이나 그 밖의 조치로 손해를 입은 건물의 소유자에게 그 손해에 상당하는 비용을 보상하여야 한다.

제 1 항에 따른 보상의 범위와 보상액의 산정 등에 관하여 필요한 사항은 대통령령으로 정한다.

제 71 조(예방접종 등에 따른 피해의 국가보상)

국가는 제 24 조 및 제 25 조에 따라 예방접종을 받은 사람 또는 제 40 조제 2 항에 따라 생산된 예방・치료 의약품을 투여받은 사람이 그 예방접종 또는 예방・치료 의약품으로 인하여 질병에 걸리거나 장애인이 되거나 사망하였을 때에는 대통령령으로 정하는 기준과 절차에 따라 다음 각 호의 구분에 따른 보상을 하여야 한다.

- 1. 질병으로 진료를 받은 사람: 진료비 전액 및 정액 간병비
- 2. 장애인이 된 사람: 일시보상금
- 3. 사망한 사람: 대통령령으로 정하는 유족에 대한 일시보상금 및 장제비

제 1 항에 따라 보상받을 수 있는 질병, 장애 또는 사망은 예방접종약품의 이상이나 예방접종 행위자 및 예방・치료 의약품 투여자 등의 과실 유무에 관계없이 해당 예방접종 또는 예방・치료 의약품을 투여받은 것으로 인하여 발생한 피해로서 보건복지가족부장관이 인정하는 경우로 한다.

보건복지가족부장관은 제 1 항에 따른 보상청구가 있은 날부터 120 일 이내에 제 2 항에 따른 질병, 장애 또는 사망에 해당하는지를 결정하여야 한다. 이 경우 미리 위원회의 의견을 들어야 한다.

제 1 항에 따른 보상의 청구, 제 3 항에 따른 결정의 방법과 절차 등에 관하여 필요한 사항은 대통령령으로 정한다.

제 72 조(손해배상청구권과의 관계 등)

국가는 예방접종약품의 이상이나 예방접종 행위자, 예방・치료 의약품의 투여자 등 제 3 자의 고의 또는 과실로 인하여 제 71 조에 따른 피해보상을 하였을 때에는 보상액의 범위에서 보상을 받은 사람이 제 3 자에 대하여 가지는 손해배상청구권을 대위한다.

예방접종을 받은 자, 예방・치료 의약품을 투여받은 자 또는 제 71 조제 1 항제 3 호에 따른 유족이 제 3 자로부터 손해배상을 받았을 때에는 국가는 그 배상액의 범위에서 제 71 조에 따른 보상금을 지급하지 아니하며, 보상금을 잘못 지급하였을 때에는 해당 금액을 국세 징수의 예에 따라 징수할 수 있다.

제 73 조(국가보상을 받을 권리의 양도 등 금지)

제 70 조 및 제 71 조에 따라 보상받을 권리는 양도하거나 압류할 수 없다.

제 11 장 보칙

제 74 조(비밀누설의 금지)

이 법에 따라 건강진단, 입원치료, 진단 등 감염병 관련 업무에 종사하는 자 또는 종사하였던 자는 그 업무상 알게 된 비밀을 다른 사람에게 누설하여서는 아니 된다.

제 75 조(청문)

특별자치도지사 또는 시장・군수・구청장은 제 59 조제 1 항에 따라 영업소의 폐쇄를 명하려면 청문을 하여야 한다.

제 76 조(권한의 위임)

이 법에 따른 보건복지가족부장관의 권한은 대통령령으로 정하는 바에 따라 그 일부를 질병관리본부장 또는 시・도지사에게 위임할 수 있다.

b) Translated Excerpts (Just the two clauses that pertain specifically to immunization programs)

Protection from Infectious Diseases Act

Article 1, Clause 1 (Statement of Purpose): The purpose of this law is to prevent the initiation and propagation of infectious diseases that pose a substantial threat to the health and welfare of the nation at large, and to establish regulations for the management of the state with respect to the further enhancement and protection of the nation's health as a whole.

Article 6, Clause 24, Section 1 (Standardized Immunization Protocols): All self-governing special districts, cities, municipalities, localities, and districts must, in accordance with the above prescribed laws, provide for regular and standardized immunization projects in conjunction with the pre-established public health clinic(s) in the region, for the following diseases:

1. Diphtheria
2. Polio
3. Pertussis
4. Measles
5. Tetanus
6. Tuberculosis
7. Hepatitis B
8. Mumps
9. Rubella
10. Varicella
11. Meningitis
12. And other disease of note as determined and promulgated by the Director-General of the Ministry of Health and Welfare

Section 2: All self-governing special districts, cities, municipalities, localities, and districts, in accordance with section 1 of this clause may, with presidential approval, turn over authority in this regard (in full or in part) to private medical institutions as per stipulations in the National Health and Welfare Act.

Clause 25, Section 1: All self-governing special districts, cities, municipalities, localities, and districts, must provide access to vaccines for diseases and their agents on an *ad hoc* basis through the pre-established public health clinics under the following circumstances:

1. Under a statutory directive from the Director-General of the Ministry of Health and Welfare requesting emergency immunization measures against a specific disease agent in the region
2. Under a statutory directive from either the Governor of the District, or the Mayor of the city, or the Director of a Municipality, or the Director of a Locality, based on his or her judgment of the need for an emergency immunization measure in the region.

Section 2: Section 2 of Clause 24 also applies to Clause 25.

Article 10, Clause 64: The following costs must be met by all self-governing governing special districts, cities, municipalities, localities, and districts:

Section 2: All costs related to the implementation of Clause 24, Section 1, Clause 25, Section 1.

Section 3: All costs necessary for the reimbursement of private medical institutions if Clause 24, Section 2, and/or Clause 25, Section 2, are implemented.

3. Singaporean Laws Concerning Immunization

4. INFECTIOUS DISEASES ACT
5. (CHAPTER 137, SECTION 64(*G*))
6. INFECTIOUS DISEASES
(DIPHTHERIA AND MEASLES VACCINATION) REGULATIONS
7. Rg 3
8. G.N. No. S 466/1989
9. REVISED EDITION 1990
10. (25th March 1992)

11. [1st January 1990]

12. PART I
13. PRELIMINARY

14. Citation

15. **1.** These Regulations may be cited as the Infectious Diseases (Diphtheria and Measles Vaccination) Regulations.

16. Definitions

17. **2.** In these Regulations, unless the context otherwise requires —
18. "booster diphtheria vaccination" means further vaccination against diphtheria of a person who has received one or the other of the complete courses of primary diphtheria vaccination prescribed by these Regulations;
19. "diphtheria prophylactic" means any of the preparations of diphtheria prophylactic set out in the First Schedule, whether such preparations contain diphtheria antigen alone or other antigen and includes such other preparations as the Director may from time to time approve;
20. "measles vaccine" means any of the preparations of measles vaccine set out in the Second Schedule whether such preparations contain measles vaccine alone or other vaccines and includes such other preparations as the Director may from time to time approve;
21. "primary diphtheria vaccination" means the vaccination of a person who has not been previously vaccinated against diphtheria;
22. "route of administration" means the method of administration of diphtheria prophylactic or measles vaccine, as the case may be;
23. "vaccination against measles" means the introduction into the body of a person of a preparation of the attenuated live measles virus for the purpose of providing protection against infection by the measles virus.

24. PART II
25. VACCINATION AGAINST DIPHTHERIA

26. Primary diphtheria vaccination

27. **3.**
28. —(1) The parent or guardian of every child in Singapore shall ensure that the child completes a course of primary diphtheria vaccination —

29. (*a*)

30. within 12 months of the birth of the child; or

31. (*b*)

32. within 12 months after the arrival of the child in Singapore, if the parent or guardian cannot produce any evidence to show that the child has already been so vaccinated.
33. (2) Primary diphtheria vaccination shall consist of the appropriate number of injections of diphtheria prophylactic.
34. (3) For the purposes of this regulation, "appropriate number of injections" means, where any diphtheria prophylactic specified in the First Schedule is used, the number of injections prescribed therefor in that Schedule and, in the case of any other approved diphtheria prophylactic, the number of injections specified by the manufacturer of the respective diphtheria prophylactic used.

35. Booster diphtheria vaccination

36. **4.** In the case of every child residing in Singapore who has received primary diphtheria vaccination, booster diphtheria vaccination consisting of one injection shall be compulsory —

(*a*)

12 months after the primary diphtheria vaccination; and

(*b*)

within 12 months after the child has attained the age of 6 years,

except that paragraph (*b*) shall not apply if the child has already received the first booster diphtheria vaccination within a period of not more than two years before attaining the age of 6 years.

Dosage of diphtheria prophylactic

5. The dosage of diphtheria prophylactic to be administered and the route of administration in respect of primary diphtheria vaccination and booster diphtheria vaccination shall be —

(*a*)

in the case of the diphtheria prophylactics set out in the First Schedule, as specified in that Schedule; and

(*b*)

in the case of other approved diphtheria prophylactics, in accordance with the directions given by the manufacturer of the respective diphtheria prophylactics used.

Expiry date of diphtheria prophylactic

6. No diphtheria prophylactic shall be used after its expiry date as specified by the manufacturer or, in the absence of any such date, not later than two years after the date of manufacture.

Storage of diphtheria prophylactic

7.

—(1) Diphtheria prophylactic shall be stored at a temperature of between 2° Celsius and 8º Celsius or at a temperature specified by the manufacturer.

(2) A proper record of the daily temperature of the place where the vaccine is stored, the quantity, and the expiry dates of the vaccine shall be kept and regularly checked by the medical practitioner.

(3) Any diphtheria prophylactic stored other than as required under paragraph (1) shall not be used for vaccination.

Intradermal test

8.

—(1) Every intradermal test shall be carried out by way of a Schick Test and such Test shall be carried out only if, in the opinion of a medical practitioner, such Test is necessary.

(2) In every case where a Schick Test has been carried out, the person carrying out such Test shall take a reading between the sixth and eighth day after such Test.

(3) Any person showing a positive reaction to the Schick Test shall forthwith be given primary diphtheria vaccination.

Schick Test

9. The Director may, in his discretion, require a Schick Test to be carried out on any one or more groups of children.

Toxin for Schick Test

10.

—(1) The Schick Test Reagent shall be the standard test toxin for the Schick Test.

(2) Schick Test Reagents shall be stored at a temperature of between 2° Celsius and 8º Celsius or at a temperature specified by the manufacturer.

(3) No Schick Test Reagent shall be used after the date of expiry specified by the manufacturer or, in the absence of any such date, not later than two months after the date of manufacture.

PART III

VACCINATION AGAINST MEASLES

Vaccination against measles of children born in Singapore

11.

—(1) The parent or guardian of every child born in Singapore shall take or cause the child to be taken to a medical practitioner to be vaccinated against measles when the child is between one year and two years of age.

(2) If vaccination against measles is given to a child before the age of one year, a booster dose shall be given to

the child before the child attains the age of two years.

73. Vaccination against measles of children born outside Singapore

74. **12.** If a child is born outside Singapore, but the parent or guardian cannot produce any documentary evidence to show that the child has either previously contracted measles or has been vaccinated against measles, the parent or guardian of the child shall take or cause the child to be taken to a medical practitioner to be vaccinated against measles within 12 months after the arrival of the child in Singapore.

75. Measles vaccine

76. **13.** The measles vaccine shall consist of attenuated live measles virus prepared by the freeze-dried method or of such other preparations as may be approved by the Director from time to time.

77. Dosage of measles vaccine

78. **14.** The dosage of measles vaccine to be administered and the route of administration in respect of measles vaccination shall be —

79. (*a*)

80. in the case of the measles vaccine set out in the Second Schedule, as specified in that Schedule; and

81. (*b*)

82. in the case of other approved measles vaccines, in accordance with the directions given by the manufacturer of the respective measles vaccines used.

83. Expiry date of measles vaccine

84. **15.**

85. —(1) No measles vaccine shall be used after its expiry date as specified by the manufacturer or, in the absence of such date, not later than one year after the date of manufacture.

86. (2) Where any freeze-dried vaccine has been reconstituted, it shall not be used beyond the period specified by the manufacturer.

87. Storage of measles vaccine

88. **16.**

89. —(1) Measles vaccine shall be stored at a temperature of between 2° Celsius and 8° Celsius or at a temperature specified by the manufacturer.

90. (2) A proper record of the daily temperatures of the place where the vaccine is stored, the quantity and the expiry dates of the vaccine shall be kept and regularly checked by the medical practitioner.

91. (3) Any measles vaccine stored at a temperature other than as required under paragraph (1) shall not be used for vaccination.

92. PART IV

93. MISCELLANEOUS

94. Notice to parent to have child vaccinated

95. **17.** Where the parent or guardian of a child has failed to comply with regulation 3(1), 11 or 12, the Director may by notice in writing require the parent or guardian of the child to have the child vaccinated within such time as may be specified in the notice.

96. Certificate of vaccination and notification

97. **18.** Every medical practitioner who has vaccinated any child against diphtheria or measles shall issue to the parent or guardian of the child a certificate in the form set out in the Third Schedule and shall within 7 days of such vaccination notify the Chief Executive of the Health Promotion Board in such form as the Director may approve.

98. [S 395/2001 wef 01/09/2001]

99. Certificate of unfitness for vaccination and notification

100. **19.**

101. —(1) If any medical practitioner is of the opinion that any child is not in a fit and proper state to be vaccinated against diphtheria or measles or has any medical condition for which such vaccination is contraindicated, he shall forthwith issue to the parent or guardian of the child a certificate of unfitness for vaccination in the form set out in the Fourth Schedule.

102. (2) Where a child is temporarily unfit for vaccination, the vaccination shall be postponed to a date specified in

the certificate of unfitness, which shall be a date not later than 3 months from the date of the certificate.

(3) Before the expiry of any such certificate, the parent or guardian shall take or cause the child to be taken to a medical practitioner, who shall then examine the child and either vaccinate the child or give another certificate of unfitness for vaccination.

(4) Any medical practitioner who issues a certificate of unfitness under this regulation shall within 7 days thereof notify the Chief Executive of the Health Promotion Board in such form as the Director may approve.

[S 395/2001 wef 01/09/2001]

Certificate of measles infection and notification

20.

—(1) If any medical practitioner is of the opinion that any child has an attack of measles, he shall forthwith issue to the parent or guardian of the child a certificate in the form set out in the Fifth Schedule.

(2) Any medical practitioner who issues a certificate of measles infection under paragraph (1) shall, within 3 days thereof, notify the Commissioner of Public Health in the form set out in the First Schedule to the Infectious Diseases (Notification of Infectious Diseases) Regulations 2001 (G.N. No. S 394/2001).

[S 395/2001 wef 01/09/2001]

Precautions against abnormal reaction

21. Every medical practitioner shall ensure that —

(*a*) all necessary antiseptic measures have been taken before any intradermal test or vaccination is carried out; and

(*b*) all requisite drugs and equipment for emergency measures in the event of any abnormal reaction which may occur at the time of vaccination are kept in the place where the vaccination is carried out.

Records

22.

—(1) Every medical practitioner shall keep a record containing the following information on every intradermal test and vaccination carried out by him or under his supervision:

(*a*) the name of the child;

(*b*) the sex of the child;

(*c*) the date of birth of the child;

(*d*) the number of the birth certificate of the child;

(*e*) the name of the mother or guardian of the child;

(*f*) the residence of the child at the time of the intradermal test or vaccination;

(*g*) the date or dates when the child was given an intradermal test or vaccination;

(*h*) the name of the manufacturer and batch number of the diphtheria prophylactic or Schick Test Reagent used; and

(*i*) the name of the manufacturer and batch number of the measles vaccine used.

(2) The record shall be kept for a period of not less than 3 years after the intradermal test or vaccination and shall be made available for inspection and for the extraction of information therefrom by any officer authorised in writing in that behalf by the Director.

Registrar of Births and Deaths to give notice of vaccination

23. The Registrar of Births and Deaths shall, immediately after the registration of the birth of a child, issue to the parents or guardian of the child a notice in the form set out in the Sixth Schedule, requiring the child to be vaccinated against diphtheria and measles.

Penalties

142.**24.** Any person who —

143.(*a*)

144.contravenes or fails to comply with any provision of these Regulations;

145.(*b*)

146.fails to comply with any requirement contained in any notice served on him under these Regulations;

147.(*c*)

148.obtains or is in possession of a false certificate or document purporting to be issued under these Regulations;

149.(*d*)

150.for the purpose of obtaining any certificate or document under these Regulations, knowingly makes any false statement or misrepresentation;

151.(*e*)

152.issues or signs any false certificate or document; or

153.(*f*)

154.supplies any false information for the purpose of any of these Regulations,

155.shall be guilty of an offence and shall be liable on conviction to a fine not exceeding $500 and, in the case of a second or subsequent conviction, to a fine not exceeding $1,000.

156.Transitional provision

157.**25.** Any notice, certificate or notification given or issued under the Infectious Diseases (Diphtheria Vaccination) Regulations 1977 or the Infectious Diseases (Measles Vaccination) Regulations 1985 revoked by these Regulations shall have the same force and effect as if it had been given or issued under these Regulations.

158.[S 186/77]

159.[S 198/85]

160.FIRST SCHEDULE

161.*Regulations 2 and 3*

162.INFECTIOUS DISEASES ACT
(CHAPTER 137)
163.INFECTIOUS DISEASES (DIPHTHERIA AND MEASLES VACCINATION)

Preparation of Diphtheria Prophylactic	Vaccination	Dosage	Route of Administration	Number of Injections
Alum Precipitated Toxoid (A.P.T.) B.P.	Primary	Dose recommended by the manufacturer	Deep Subcutaneous or Intramuscular	2
	Booster	Dose recommended by the manufacturer	Deep Subcutaneous or Intramuscular	As prescribed in regulation 4 of the Regulations
Formal Toxoid (F.T.) B.P.	Primary	Dose recommended by the manufacturer	Deep Subcutaneous or Intramuscular	2
	Booster	Dose recommended by the manufacturer	Deep Subcutaneous or Intramuscular	As prescribed in regulation 4 of the Regulations
Purified Toxoid Aluminium Phosphate (P.T.A.P.) B.P.	Primary	Dose recommended by the manufacturer	Deep Subcutaneous or Intramuscular	2
	Booster	Dose recommended by the manufacturer	Deep Subcutaneous or Intramuscular	As prescribed in regulation 4 of the Regulations

Diphtheria and Pertussis Vaccine B.P.	Primary	Dose recommended by the manufacturer	Deep Subcutaneous or Intramuscular	3
	Booster	Dose recommended by the manufacturer	Deep Subcutaneous or Intramuscular	As prescribed inregulation 4 of the Regulations
Toxoid Anti-toxin Floccules (Commercial preparation: no official standards available)	Primary	Dose recommended by the manufacturer	Deep Subcutaneous or Intramuscular	3
	Booster	Dose recommended by the manufacturer	Deep Subcutaneous or Intramuscular	As prescribed inregulation 4 of the Regulations
Diphtheria-Tetanus-Pertussis Vaccine (D.T.P.) B.P.	Primary	Dose recommended by the manufacturer or prescribed in the British Pharmacopaeia	Deep Subcutaneous or Intramuscular	3
	Booster	Dose recommended by the manufacturer or prescribed in the British Pharmacopaeia	Deep Subcutaneous or Intramuscular	As prescribed inregulation 4 of the Regulations
Diphtheria Tetanus Vaccine (D.T.) B.P.	Primary	Dose recommended by the manufacturer or prescribed in the British Pharmacopaeia	Deep Subcutaneous or Intramuscular	2
	Booster	Dose recommended by the manufacturer or prescribed in the British Pharmacopaeia	Deep Subcutaneous or Intramuscular	As prescribed inregulation 4 of the Regulations

164.SECOND SCHEDULE

165.Regulations 2 and 14

INFECTIOUS DISEASES (DIPHTHERIA AND MEASLES VACCINATION) REGULATIONS

Type of Measles vaccine	Dosage	Route of Administration	Number of Injections
1. Attenuated Live Measles vaccine	Dose recommended by the manufacturer	Subcutaneous	One
2. Attenuated Live Measles and Rubella virus vaccine	Dose recommended by the manufacturer	Subcutaneous	One
3. Attenuated Live Measles, Mumps and Rubella vaccine	Dose recommended by the manufacturer	Subcutaneous	One

166.

CHILD CARE CENTRES ACT
(CHAPTER 37A, SECTION 19)
CHILD CARE CENTRES REGULATIONS

Rg 1

REVISED EDITION 2012
(31st March 2012)

[1st July 1988]

PART I
PRELIMINARY

Citation

1. These Regulations may be cited as the Child Care Centres Regulations.

Definitions

2. In these Regulations, unless the context otherwise requires —

"child care teacher" means a person who holds such child care qualifications as is acceptable to the Director, and who is employed by a licensee for the care and development of children older than 18 months but younger than 7 years of age enrolled in the licensee's child care centre;

"educarer" means a person who holds such child care qualifications as is acceptable to the Director, and who is employed by a licensee for the care and development of the following children enrolled in the licensee's child care centre:

(*a*) children aged 2 months or older but younger than 3 years of age, other than children referred to in paragraph (*b*); and

(*b*) children enrolled in any Nursery 1 class conducted at the licensee's child care centre;

"health officer" means any Health Officer appointed under section 4(1) of the Infectious Diseases Act (Cap. 137);

"Kindergarten 1 class" means a class conducted at a child care centre for children attaining 5 years of age in the calendar year during which the class commences;

"Kindergarten 2 class" means a class conducted at a child care centre for children attaining 6 years of age in the calendar year during which the class commences;

"licensee" means the holder of a licence to operate a child care centre;

"Nursery 1 class" means a class conducted at a child care centre for children attaining 3 years of age in the calendar year during which the class commences;

"Nursery 2 class" means a class conducted at a child care centre for children attaining 4 years of age in the calendar year during which the class commences;

"para-educarer" means a person who holds any of the child care qualifications set out in the Third Schedule, and who is employed by a licensee to assist —

(*a*) any educarer also employed by the licensee in the care and development of the following children enrolled in the licensee's child care centre:

(i) children aged 18 months or older but younger than 3 years of age, other than children referred to in sub-paragraph (ii); and

(ii) children enrolled in any Nursery 1 class conducted at the licensee's child care centre; and

(*b*) any child care teacher also employed by the licensee in the care and development of children enrolled in any Nursery 2 class conducted at the licensee's child care centre;

"para-educator" means a person who holds any of the child care qualifications set out in the Fourth Schedule, and who is employed by a licensee to assist any child care teacher also employed by the licensee in the care and development of children enrolled in any Kindergarten 1 class or Kindergarten 2 class conducted at the licensee's child care centre;

"philosophy of care" means the central ideas upon which the child care programme will be developed and applied at the child care centre, including the goals of the centre as a whole, the objectives for each age group of children, the activities designed to promote the physical, intellectual, social and emotional development of children and the training of programme staff in childcare education;

"programme staff" means any employee of a child care centre who is a child care teacher, an educarer, a para-educarer or a para-educator;

"registered medical practitioner" means any person who is registered as a medical practitioner under the Medical Registration Act (Cap. 174);

"staff" means all employees of the child care centre;

"supervisor" means the person who plans and directs the programme of a child care centre and who is directly in charge of the children and staff of the child care centre.

Licensee must comply with Regulations

2A. Unless the context otherwise requires, it is the duty of the licensee of a child care centre to ensure that the provisions of these Regulations are complied with when providing child care services at that child care centre.

PART II

LICENSING OF CHILD CARE CENTRES

Issue of licence

3.

—(1) Every licence to operate a child care centre issued by the Director shall be in such form and for such period as the Director may determine.

(2) Where a licence has expired, it may be renewed for such period as the Director thinks fit by the issue of a fresh licence commencing on the day following the date of expiry of the previous licence.

Fee for licence

4. The licence fee payable shall be $240 for a period of 24 months or part thereof.

Disqualification

5. No licence may be issued or renewed in respect of an applicant who has been convicted of —

(*a*) any offence under section 5, 6, 7, 11, 12 or 13 of the Children and Young Persons Act (Cap. 38), or any other offence involving child abuse or child neglect;

(*b*) any offence under Part XI of the Women's Charter (Cap. 353); or

(*c*) any offence under section 354, 354A, 372, 373, 373A, 375, 376, 376A, 376B, 376C, 376D, 376E, 376F, 376G, 377, 377A, 377B or 509 of the Penal Code (Cap. 224).

Notification of change of particulars of licensee

6.

—(1) Where a licensee changes his address, he shall make a report of such change under section 8 of the National Registration Act (Cap. 201).

(2) The licensee shall notify the Director in writing of any change of any other particulars specified in the licence within 28 days of any such change.

(3) Where the licensee is a body corporate, any officer holding a managerial or an executive position shall also notify the Director of any change in the constitution of the members of the board of directors or committee or board of trustees or other governing body of the body corporate within 14 days of such change.

(4) The Director may, by way of endorsement on the licence or by the issue of a fresh licence, make any amendment to the licence which is necessary as a result of any change of particulars referred to in paragraph (1) or (2).

PART III

PERIOD OF OPERATION AND PROGRAMME

Hours of operation

7.

—(1) Every licensee shall submit information on the period of operation of the child care centre to the Director for his approval.

(2) Every child care centre shall comply with the period of operation as approved by the Director.

(3) No child shall be retained in a child care centre for more than 24 hours continuously.

Programme statement

8.

—(1) Every child care centre shall have a written programme statement which shall include the following:

(*a*) the children who may be enrolled in terms of age range;

(*b*) the period of operation of the child care centre;

(*c*) the particular approach to programming that is followed, including —

(i) philosophy of care;

(ii) daily programme schedule or timetable; and

(iii) any specialised services;

(*d*) the procedure for registration, admission and withdrawal of children;

(*e*) the fees payable;

(*f*) the procedure for handling illnesses and emergencies of children; and

(*g*) the procedure for transport of children, where provided, including transport arrangements and parental permission for excursions and related activities outside the child care centre.

(2) The licensee of a child care centre shall ensure that the programme statement is explained in general terms to a parent or guardian of every child who is to be enrolled in the child care centre and that a copy of the programme statement is given to the parent or guardian without any charge.

Daily programme schedule

9.

—(1) Every licensee shall submit to the Director for approval a written daily programme schedule for each age range of children specified by the Director.

(2) Every child care centre shall comply with the daily programme schedule as approved by the Director underparagraph (1).

(3) The daily programme schedule shall include the following:

(*a*) group and individual activities;

(*b*) activities designed to provide gross and fine motor, cognitive, social and emotional development;

(*c*) active and quiet play;

(*d*) rest periods;

(*e*) meal times; and

(*f*) routine care periods.

(4) The approved schedule shall be displayed on a notice board in the child care centre and be made available for inspection at all times.

(5) All formal educational activities must be undertaken by programme staff who have successfully obtained the necessary child care qualifications set out in these Regulations or as accepted by the Director, as the case may be.

(6) Provision shall be made in the schedule to separate children, who are yet unable to walk, from other children during play periods.

Partnership between centre and parents or guardians

10. Every child care centre shall —

(*a*) establish a system for sharing with parents information on matters that may affect the children;

(*b*) allow parents to visit the child care centre at any reasonable time, provided that the visits do not cause undue interference with the child care centre's programme; and

(*c*) where applicable, give parents and guardians such length of notice of closure of the child care centre as may be required by the Director.

PART IV

HEALTH, MEDICAL CARE, NUTRITION AND DISCIPLINE

Immunisation and illness

11.—(1) No child care centre shall enrol any child who has not been given immunisation as required under existing law.

(1A) Subject to paragraph (1B), any child —

(*a*) who has a fever; or

(*b*) who is on medication,

shall not be admitted physically into or attend any class at any child care centre.

(1B) A child who has no fever but is on medication may be admitted physically into or attend any class at any child care centre if —

(*a*) the period of unfitness stated in any medical certificate signed by any registered medical practitioner with respect to the child has expired and the child does not exhibit any symptom of illness; or

(*b*) the child is certified by any registered medical practitioner to be medically fit to attend class at the child care centre.

(2) Any symptom of ill-health or communicable disease detected in a child shall be recorded for appropriate follow-up action to be taken.

(3) Any child who develops any symptom of serious illness shall be taken to a supervised area designated for rest and care and shall remain there until such time as his parent or guardian, or any person authorised by his parent or guardian, takes him home.

(4) Where a serious accident, illness or death occurs to a child, the licensee shall forthwith —

(*a*) obtain all necessary emergency medical assistance;

(*b*) notify the parents or guardian of the child;

(*c*) maintain proper record of the occurrence; and

(*d*) notify the Director within 24 hours of its occurrence and if a public holiday falls during that period, on the day following the public holiday.

(5) When a child dies, the licensee shall cause to immediately notify the police of the death.

First aid facilities

12.—(1) Every child care centre shall maintain a first aid kit for emergency treatment which shall be kept in an accessible and safe place on the premises.

(2) There shall be, at all times, at least one person in a child care centre who holds a valid certificate in first aid recognised by the Director.

Medicines and drugs

13.

—(1) Every child care centre shall ensure that —

(*a*) no medicine or drug is to be administered to a child unless otherwise prescribed by a registered medical practitioner, or in accordance with the written instructions of the parent or guardian of the child;

(*b*) all containers of any medicines or drugs to be administered to a child are clearly labelled with the child's name and instructions for administration of the medicines or drugs; and

(*c*) all medicines or drugs are to be kept out of reach of children.

(2) The licensee shall cause a proper written record to be maintained for administration of medicine or drugs in relation to each child at the child care centre. The record shall include —

(*a*) the name of the child;

(*b*) the name of medicine or drugs administered;

(*c*) the dosage of medicine or drugs administered;

(*d*) the name of person who administered the medicine or drugs;

(*e*) the time and date of administration; and

(*f*) the manner of administration.

Health of staff

14.

—(1) No licensee shall employ any person as a member of the staff of a child care centre unless that person —

(*a*) has undergone a medical examination and a chest X-ray;

(*b*) has been certified to be fit to work and free from active tuberculosis by a registered medical practitioner; and

(*c*) has provided a written declaration to the licensee that —

(i) the person has received vaccination against measles, rubella and varicella; or

(ii) the person has taken a serological test and has since been vaccinated against the diseases for which the serological test shows he has no immunity against.

(2) All staff over the age of 45 years shall undergo a chest X-ray once every 3 years.

(3) Any person engaged or employed to prepare food in a licensed child care centre —

(*a*) shall undergo a medical examination as specified in paragraph (1) before such engagement or employment;

(*b*) shall be vaccinated against typhoid before such engagement or employment and subsequently once every 3 years; and

(*c*) shall, before such engagement or employment, attend and successfully complete such course on basic food hygiene as may be approved by the Director.

Infectious diseases

15.

—(1) The licensee of a child care centre —

(*a*) shall ensure that the physical premises and operation of the child care centre conform with such guidelines as may be set by the Ministry of Health relating to the prevention of infectious diseases in child care centres and kindergartens; and

(*b*) shall immediately report any suspected or known cause of infectious disease amongst the staff or children of the child care centre to a health officer, the Director and the parents of all the children attending the child care centre.

(2) The licensee shall ensure that any staff member in a child care centre or any person engaged in the preparation of food or rendering of services in a child care centre, who is suffering from an infectious disease is excluded from the child care centre until a registered medical practitioner certifies that he may be permitted to return.

(3) The Director may, on the advice of a health officer, order the closure of any child care centre for such period as may be considered necessary if there has been found or reported more than one case of infectious disease at or about the same time amongst the staff or children of the child care centre or persons engaged in the preparation of food or rendering of services in the child care centre.

Nutrition

16.

—(1) Every child care centre shall have a written menu and shall serve food that conforms with the dietary requirements as specified by the Director.

(2) Every child care centre shall provide feedings for each infant under one year of age which are in accordance with the guidelines approved by the Director or in accordance with the written instructions of the parents or guardian regarding the type and scheduling of feeds for infants with special needs.

(3) Written menus shall be planned at least one week in advance, and shall be displayed on a notice board in a child care centre and be made available for inspection at all times.

Behaviour and guidance

17.

—(1) Every licensee shall cause to ensure that the staff shall not administer the following disciplinary measures:

(*a*) any form of corporal punishment, including the following:

(i) striking a child, directly or with any physical objects;

(ii) shaking, shoving, spanking or other forms of aggressive contact; and

(iii) requiring or forcing the child to repeat physical movements;

(*b*) harsh, humiliating, belittling or degrading responses of any kind, including verbal, emotional and physical;

(*c*) deprivation of meals; or

(*d*) isolation and physical restriction of movements.

(2) Where any member of the staff of a child care centre or licensee thereof has administered any disciplinary measure referred to in paragraph (1), the Director may issue a letter to that staff member or licensee warning him against repeating the administration of such disciplinary measure.

PART V

RECORDS AND REPORTS

Contents and maintenance of children's records

18.

—(1) Every child care centre shall keep up-to-date records which shall be made available for inspection by the Director at all times.

(2) The records referred to in paragraph (1) shall include —

(*a*) an application for enrolment signed by the parents or guardian of the child;

(*b*) the name, date of birth and home address of the child;

(*c*) the names, home addresses, telephone numbers and any other particulars of the child's parents or guardian which may be required by the Director;

(*d*) the place and telephone number at which a parent or guardian, or alternative person to whom the child may be released, can be reached in case of an emergency when the child is in the care of the child care centre;

(*e*) the written authorisation from the parents or guardian for emergency medical care;

(*f*) the name, address and telephone number of the family physician of the child, if any;

(*g*) the date of admission of the child;

(*h*) the date of discharge of the child;

(*i*) the monthly fees payable;

(*j*) a record of the daily attendance of the child;

(*k*) a three-monthly record of the growth of every child who is 18 months of age and below;

(*l*) a six-monthly record of the height and weight of each child over 18 months of age;

(*m*) up-to-date health information on each child including medical reports, **vaccination**» and «**immunisation**history, chronic physical problems, injuries and communicable diseases;

(*n*) a written recommendation, signed by a registered medical practitioner, with regard to any special requirements for diet, rest or exercise in relation to a particular child, if any; and

(*o*) reports of accidents requiring hospitalisation or the occurrence of a death of a child.

(3) Every child care centre shall keep all records of the children confidential and shall ensure that the records are not inspected otherwise than by —

(*a*) the licensee;

(*b*) the Director or any officer authorised by him;

(*c*) the parent or guardian of the child; and

(*d*) any other person otherwise authorised by law to inspect the records.

Record of official inspections

19. Every licensee shall cause to keep records of official visits of inspection made by the Director, health officer or Singapore Civil Defence Force officer or any person making an official inspection visit.

Records to be kept and retention period

20. Every licensee shall cause to keep the following records for the periods hereinafter specified:

(*a*) particulars of every child and the child's parents or guardian for a period of 3 years from the date of the child's withdrawal from the child care centre, which shall include —

(i)
photostated copy of the child's birth certificate or other identification documents;

(ii)
documentary evidence of the mother's or single father's employment status;

(iii)
relevant documentary evidence of the nationality of the father and mother;

(iv)
documentary proof of single status of the father; and

(v)
enrolment form of the child;

(*b*)
forms used for implementation of Government subsidy for child care for a period of 3 years from the date of withdrawal from the centre;

(*c*)
receipt books for a period of 3 years from the last entry; and

(*d*)
daily attendance register for a period of 3 years from the last entry.

Reporting of child abuse

21. The licensee of a child care centre who has reasonable cause to suspect any case of child abuse shall immediately report it to the Director.

Report of legal action

22. Any legal action initiated against a child care centre which affects any child, staff or the operation of the child care centre shall be reported to the Director.

PART VI
STAFF

Submitting of particulars of staff

23.
—(1) The licensee of a child care centre shall cause to submit the particulars of every staff in such form as the Director may determine.

(2) Where any change in the staff occurs, the licensee shall cause to inform the Director in writing within 28 days of the change.

Appointment of staff

24.
—(1) The licensee of a child care centre shall employ a sufficient number of programme staff who have the relevant qualifications and training recognised by the Director for that particular grade of staff to ensure compliance with regulation 25.

(2) For the purposes of paragraph (1), the licensee shall employ a supervisor and programme staff, each of whom must have —

(*a*)
the necessary child care qualifications as set out in these Regulations or as accepted by the Director, as the case may be; and

(*b*)
a valid certificate in first aid recognised by the Director.

(3) No licensee shall employ any person as a member of the programme staff unless that person has furnished a declaration stating —

(*a*)
that he has not previously been convicted of any offence specified in regulation 26; and

(*b*)
whether he has previously received any letter of warning from the Director under regulation 17(2).

Licensee to issue and enforce measures

26A. The licensee of a child care centre shall, for the purpose of ensuring the safety and protection of all children in the child care centre from sexual exploitation and sexual abuse, issue rules of conduct, which are approved by the Director, to the staff of the child care centre.

Director may prohibit employment of certain staff

26. The Director may, in his discretion, prohibit the licensee of any child care centre from employing any person as staff of that child care centre if —

(*a*) the person to be employed has been convicted of —

(i) any offence under section 5, 6, 7, 11, 12 or 13 of the Children and Young Persons Act (Cap. 38), or any other offence involving child abuse or child neglect;

(ii) any offence under Part XI of the Women's Charter (Cap. 353);

(iii) any offence under section 354, 354A, 372, 373, 373A, 375, 376, 376A, 376B, 376C, 376D, 376E, 376F, 376G, 377, 377A, 377B or 509 of the Penal Code (Cap. 224); or

(iv) any offence involving fraud, dishonesty or moral turpitude; or

(*b*) the Director is not satisfied as to the character or fitness of the person to be employed as staff of the child care centre.

Licensee to issue and enforce measures

26A. The licensee of a child care centre shall, for the purpose of ensuring the safety and protection of all children in the child care centre from sexual exploitation and sexual abuse, issue rules of conduct, which are approved by the Director, to the staff of the child care centre.

PART VII

CHILD CARE CENTRE PREMISES

Child care centre to comply with specifications

27. The licensee of a child care centre shall ensure —

(*a*) that the child care centre complies with the specifications set out in the First Schedule; and

(*b*) where the child care centre enrols any child with special educational needs, that the child care centre complies with such other guidelines relating to the facilities and programmes to be provided for children with special educational needs as the Director may issue.

Playgrounds

28.

—(1) Every child care centre shall have access to outdoor play space for gross motor activity.

(2) Playgrounds within the compounds of a child care centre shall be adequately fenced.

(3) Before the children are allowed the use of any playground, a physical inspection shall be made by the staff to ensure that the playground equipment is in a safe working condition and that the playground is free from broken glass, other sharp or harmful objects and standing water.

(4) Every child care centre without access to outdoor play space shall have additional indoor space which shall be equipped with materials for gross motor activity and which comply with the specifications set out in the First Schedule.

Equipment and furnishings

29.

—(1) Every child care centre shall provide sufficient and suitable chairs, tables, play materials and equipment.

(2) Where children who are 18 months of age or younger are enrolled, a child care centre shall also provide —

(*a*) separate facilities for changing diapers and dressing; and

(*b*) a cot for each child enrolled.

(3) A mattress and mattress cover made of Poly Vinyl Chloride (PVC) material shall be provided for each child during sleeping or resting periods.

PART VIII

HYGIENE AND ENVIRONMENTAL HEALTH

Washing and sanitary facilities

30. Every child care centre shall have washing and sanitary facilities of a type suitable for children as set out in the Second Schedule.

Maintenance of child care centre

31. The premises and equipment of a child care centre shall be maintained in a clean and sanitary condition and kept in a good state of repair to the satisfaction of the Director.

Personal care

32.

—(1) Every child care centre shall —

(*a*) establish sanitary procedures for changing diapers; and

(*b*) sanitize changing and eating surfaces, toys and other objects handled by the children.

(2) Every child shall have his own personal effects including towel, comb, toothbrush and a change of clothes.

(3) Every child shall have his own locker or storage space in the child care centre. Lockers or storage space shall be of sufficient size to contain the personal belongings, including the clothing of every child.

Prohibition on smoking

33. No smoking shall be allowed in the child care centre during its operating hours.

Kitchen facilities

34. Every child care centre shall have sufficient and suitable kitchen facilities for the preparation of meals for children attending the child care centre and for the washing up of utensils.

Serving of food

35.

—(1) Every child care centre shall ensure that each child is provided with individual eating and drinking utensils.

(2) Children shall not be fed from the same eating and drinking utensils.

(3) Cracked or chipped eating and drinking utensils shall not be used for the serving or consumption of food.

PART IX

SAFETY AND EMERGENCY INFORMATION

Storing of inflammable substances and cleaning agents

36. Inflammable substances and cleaning agents shall be stored in an area separate from food supplies in a locked cabinet or in a location inaccessible to children.

Inspection by officers of Singapore Civil Defence Force

37. The licensee of a child care centre shall cause to permit officers of the Singapore Civil Defence Force to enter at all reasonable times and inspect any building in which the child care centre is situated.

Fire precautionary measures

38. Every licensee shall cause to ensure that —

(*a*) there is a fire emergency plan;

(*b*)

the written procedure is displayed on a notice board on the premises;

(*c*) fire evacuation drills are conducted at least once in 6 months;

(*d*) a written record is maintained of all fire drills;

(*e*) any apparatus or fire-fighting equipment recommended by the Commissioner of Singapore Civil Defence Force is installed, regularly inspected, maintained and ready for use;

(*f*) the staff are conversant with the method of using such equipment; and

(*g*) all exits from the child care centre building as well as all passageways and staircases are clear of obstruction at all times.

Emergency information

39. —(1) Every child care centre shall have a list of emergency telephone numbers which is readily available to the staff and which shall include the telephone numbers of —

(*a*) the Singapore Civil Defence Force;

(*b*) ambulance services; and

(*c*) the Singapore Police Force.

(2) Up-to-date information for use in an emergency shall be easily accessible at all times and shall include —

(*a*) contact information on the nearest source of emergency care and means of transportation thereto;

(*b*) home and work addresses and telephone numbers of each child's parents or guardian;

(*c*) any special medical information provided by the child's parents, guardian or doctor; and

(*d*) any additional information on the special needs of the child, as specified by the child's parents, guardian or doctor, that might be useful in handling an emergency situation.

PART X

FINANCIAL MATTERS

Child care fees

40. —(1) An applicant for a licence to operate a child care centre shall, when applying for the licence, inform the Director in writing of —

(*a*) the registration fees and the daily, weekly, monthly or other incidental fees for the child care centre; and

(*b*) the deposits that are to be made payable in respect of the admission to and attendance of any child at the child care centre.

(2) The licensee of a child care centre shall, at least 2 months before any change in any fee or deposit referred to in paragraph (1), inform the Director and parent or guardian of every child attending the child care centre of such change in writing.

(3) The licensee of a child care centre shall issue a receipt for every such fee or deposit received by the licensee.

(4) The receipt issued under paragraph (3) shall state the amount of Government subsidy for which the parent is eligible in respect of the fees paid by them.

PART XI

MISCELLANEOUS

Use of premises

41.

—(1) Subject to paragraph (2), no licensed child care centre shall be used for any purpose other than the ordinary conduct and business of a child care centre during its period of operation.

(2) The Director may, in his discretion and subject to such conditions as he may impose, allow the licensee of a child care centre to receive children who are aged 7 years or older but younger than 14 years of age for the purposes of providing them care and supervision during its period of operation.

Furnishing of false information, etc.

41A. No person shall furnish false information, or fail to furnish information which is required to be furnished, in connection with any application for the issue or renewal of a licence or for employment as staff in a child care centre.

Submission of returns

42.

—(1) The licensee of a child care centre shall submit to the Director any returns which the Director may require.

(2) The returns shall be submitted in such manner as may be determined by the Director, including using the computerised web-based system known as the Child Care Link.

Penalty

43. Any person who contravenes any of the provisions of these Regulations shall be guilty of an offence and shall be liable on conviction to a fine not exceeding $2,000 and in the case of a continuing offence to a further fine not exceeding $50 for every day during which the offence continues after conviction.

FIRST SCHEDULE

Regulations 27 and 28(4)

SPECIFICATIONS FOR A CHILD CARE CENTRE PREMISES

1. Every child care centre shall be housed on the ground floor of a building unless otherwise approved by the Director. The site of the child care centre shall be located away from main roads and other traffic hazards wherever possible.

2. No swing door shall be installed in any child care centre.

3. The floor shall not be of bare concrete.

4. The floor shall be clean, damp-proof, safe, level, washable and with a non-slip surface.

5. Every child care centre shall have a designated space for activity areas, playing, toilet and bathing facilities, washing, eating, resting, an office, staff rest periods, isolation of sick children, storage of food, beds, bedding, toys, indoor and outdoor play material and equipment and medical supplies.

6. Every child care centre shall have a designated space for the preparation of food and snacks and such space shall be rendered inaccessible to children.

7. Every child care centre shall have a minimum of 3 square metres of usable floor space (excluding service areas) as indoor activity area for each child enrolled, who is older than 18 months of age. Additional space as determined by the Director shall be provided for children who are unable to walk.

7A. Every child care centre shall have a minimum of 5 square metres of usable floor space (excluding service areas) as indoor activity area for each child enrolled, who is aged 18 months or younger. Additional space as determined by the Director shall be provided for children who are unable to walk.

8. Every child care centre shall have access to outdoor play space. Where this is not possible, there shall be additional indoor gross motor activity area. The space provided, both indoors or outdoors, shall be at least 30 square metres or one-fifth of the centre's capacity at 5 square metres per child, whichever is more. The gross motor activity area shall exclude service and children's activity areas.

9. Power points within designated child care centres shall either be raised to a level which is out of children's reach or rendered harmless or ineffective to children.

10. Drains in child care centres shall be covered.

11. Any child care centre which is not located on the ground floor of the building shall have grilles on all windows. Compliance with this requirement may be waived for those child care centres with central air-conditioning, in which case, the windows shall be kept closed at all times when the children are on the premises.

12. Where there are staircases in a child care centre, safety gates shall be installed at both ends of a staircase.

13. Every child care centre shall install equipment to enable it to log on to and access Child Care Link, a computerised web-based system.

SECOND SCHEDULE

Regulation 30

HYGIENE AND ENVIRONMENTAL HEALTH

1. The following number of wash hand basins and flush toilets shall be provided:

Number of children	*Number of wash hand basins*	*Number of flush toilets*
47 and below	2	2
48 — 71	3	3
72 — 95	4	4
96 — 119	5	5
120 — 143	6	6
144	7	7.

2. Toilet facilities for children shall be provided at each level of the premises of a child care centre.

3. Where a child care centre has a capacity of more than 144 children, the number of additional toilets and wash hand basins to be provided for children in excess of 144 children shall be calculated in accordance with the following formula:

$$X = \frac{Y}{23},$$

where X is the number of additional toilets and wash hand basins to be provided, rounded up to the nearest whole number; and

Y is the number of children in excess of 144 children.

4. Each wash hand basin shall be of child-size and fixed at a height approximately 500 mm to 600 mm from the floor.

5. A mirror of a suitable size shall be fixed to the wall above the wash hand basins.

6. Each flush toilet shall be of the child-sized pedestal type of toilet and of a height not exceeding 350 mm (measured without seat) from the floor.

7. Each flush toilet shall be separated by partitions of a height of at least one metre.

8. Internal walls of each toilet block shall be lined with glazed tiles to a height of at least 1.5 metres and the wall behind and above wash hand basins and sinks shall be lined with glazed tiles to a height of not less than 450 mm.

9. Bathing facilities (including water heaters) for children shall be provided.

10. Where children who are aged 18 months or younger are enrolled —

(*a*)

sinks with running water near the diaper change area shall be provided at a ratio of one sink for every 10 children aged 18 months or younger; and

(*b*) such other facilities in compliance with the guidelines specified by the Director shall be provided.

THIRD SCHEDULE

Regulation 2

CHILD CARE QUALIFICATIONS OF PARA-EDUCARER

Certificate in the Fundamentals in Early Childhood Care and Education Course, or such equivalent course as may be approved by the Director.