



General Profiles of Health Examinations of Foreign Laborers from 2001 to 2007

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Abstract

Taiwan began to import foreign laborers in October 1989. To prevent the importation of infectious diseases, Taiwan established regulations that required blue collar foreign laborers to receive a health examination each before entry to Taiwan, within three days after entry, and periodically thereafter. This article tracks the progression of the regulations development on the health assessment of blue collar foreign laborers and general profiles of the health examination results from 2001 to 2007. The “Regulations Governing Management of the Health Examination of Employed Aliens” was formulated and promulgated in 2004 and then amended in 2007. Changes to the policy of the health examination of foreign laborers included: canceling the urine examination of narcotics, changing the frequency of the regular health examinations from every six months to after 6, 18, and 30 months after entry for work, terminating the pregnancy test after entry, extending the re-examination deadline of parasitic infection from 30 days to 45 days, and requiring those with a positive reaction to serological tests of syphilis to complete the therapy in

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30 days. The “Regulations Governing the Designation and Management of Hospitals for the Health Examination of Employed Aliens after Entry” was framed and promulgated in 2004, in which new requirements for laboratory accreditation regarding designated hospitals were included. The failure rates of foreign laborers’ regular health examination after entry between 2001 and 2003 ranged from 2.39% to 2.65%. Within the specific items of the failure rates, the failure rates of parasite screening preceded, which ranged from 2.29% to 2.45%, while the failure rates of pulmonary tuberculosis screening ranged from 0.04% to 0.06%. The failure rates of the regular health examination of foreign laborers in 2004, 2005, 2006 and 2007 were 2.67%, 3.62%, 6.03%, and 7.48%, respectively. In these years, the failure rates of parasite screening were 2.61%, 3.53%, 5.89%, and 7.35%, respectively, while the failure rates of pulmonary tuberculosis screening were 0.05%, 0.08%, 0.12%, and 0.11%, respectively.

Keywords: foreign laborer, health examination, parasites

Introduction

Taiwan began to import foreign laborers in October 1989. To avoid the importation of infectious diseases, the blue collar foreign laborers who were legally imported should submit a qualified certification of health examination in order to apply for an entrance visa. In addition, they must receive a health assessment within three days after entry and apply for permission of employment. The blue collar foreign laborers are also required to obtain regular examinations after entry for work. Their reports of the regular health examination are sent to local public health bureaus for approval and reference. Those who fail to pass the health examination



would be sent to the Council of Labor Affairs, the Executive Yuan, and their employment permission would be revoked. The requirements of the health examination for foreign laborers have been legalized within the administration for years. Adjustments were made to items in the health examination, examination frequency, and management of the designated hospitals. Literature of regulations of the health examination of foreign laborers and results of health examination are found in 1992-1993 data sorted by Young, 1992-1995 data sorted by Hsu, 1998 data sorted by Hsu, and 1992-2004 data sorted by Wu [1-4]. To survey the general profiles of the health examination of foreign laborers in recent years, this article includes the course of change and development of regulations of the health examination of foreign laborers and the corresponding results from 2001 to 2007.

General Profiles of Foreign Laborers in Taiwan

According to the statistics supplied by the Council of Labor Affairs, the Executive Yuan, the number of blue collar foreign laborers in 2001 was 304,605 and 357,937 in 2007. Within the nationality distributions of the blue collar foreign laborers in 2007, there were 115,490 Indonesians (32.3%), 86,948 Thais (24.3%), 86,423 Filipinos (24.1%), 69,043 Vietnamese (19.3%), 22 Mongolians (0.006%), and 11 Malaysians (0.003%). In 2007, 183,329 foreign laborers worked in manufacturing industries (51.2%), 16,228 served as nursing and home servants (45.3%), 8,594 worked in construction industries (2.4%), and 3,786 served as ship crew members (1.1%).

Regulations of the Health Examination of Foreign Laborers

In May 1992, the “Employment Service Act” was promulgated. The

Council of Labor Affairs, the Executive Yuan formulated and promulgated the “Regulations Governing Permit for and Management of the Employment of Aliens” in July 1992, which specified the associated regulations of the health examination of foreign laborers. The “Employment Service Act” was amended in January 2002. The Department of Health, the Executive Yuan formulated and promulgated the “Regulations Governing Management of the Health Examination of Employed Aliens” on the 13th of January, 2004. In addition, the Council of Labor Affairs, the Executive Yuan terminated the “Regulations Governing Permit for and Management of the Employment of Aliens,” while also finalized the “Regulations on the Permission and Administration of the Employment of Foreign Workers.”

In 2001, the health examination of foreign laborers was conducted following the “Regulations Governing Permit for and Management of the Employment of Aliens” The policies include a health examination in one’s home country, health examination within three days after entry, and a regular health examination within one month before or after every six months of employment. Items of the health examination included chest x-rays for pulmonary tuberculosis screening, HIV (human immunodeficiency virus) antibody tests, serological test for syphilis, hepatitis B surface antigen test, fecal examinations for intestinal parasites, urine examinations against amphetamine and morphine, pregnancy test, leprosy checkup, and a general physical examination (mental status included). If intestinal parasites except *Entamoeba histolytica* are found, they are required to receive therapy and re-examination within 30 days. Hepatitis B surface antigen examination was eliminated in the regular health assessment after November 9th, 2001, whereas the pregnancy test was removed in the regular health



examination after November 9, 2002. The Department of Health, the Executive Yuan terminated the “Proficiency Tests of Screening *Entamoeba histolytica* and Authorization of Self-examination” on April 22, 2003. If the designated hospitals for the health examination become suspicious of infection of *Entamoeba histolytica*, the hospitals should resume the procedure of taking specimens and sending the specimens to the Centers for Disease Control (CDC) for further molecular biological differential diagnosis.

On January 13, 2004, the major changes of the “Regulations Governing Management of the Health Examination of Employed Aliens” included the termination of urine screening of marijuana, amphetamine, and morphine due to the fact that urine screening for narcotics was a preventive measure against drug abuse but not in the field of the health examination. Considering the failure rate of the health examination of foreign laborers was 2% at that time, the frequency of the regular health examination was decreased from every six months to having a health examination in the 6 months, 18 months, and 30 months after the day of entry for work. The “Principles on the determination and management of failed items of health examination” was added to the attached part of the regulations regarding the mechanisms of confirmation on failed items in preliminary screening. This section stated that: a Western Blot method is required for further confirmation for the initial positive HIV antibody tests; those who had some abnormal findings in the chest x-ray examination should go to the designated institutions for further examination and perform a sputum smear examination; the positive specimens in syphilis serological tests should be sent to the designated institutions for IgM tests; and those who were suspected of infection of *Entamoeba histolytica*

should resume the procedures of collecting and sending specimens to the Taiwan CDC for further differential diagnosis.

The Department of Health, the Executive Yuan amended the “Regulations Governing Management of the Health Examination of Employed Aliens” on October 2nd, 2007. The key points of the amendment include: (1) practicing the “Gender Equality in Employment Act” by canceling the pregnancy test within three days after entry; (2) amending the confirmation principles of positive serological tests against syphilis to be in accordance with the definitions for reporting of syphilis as a communicable disease in our country and terminating IgM confirmation tests, where those with positive syphilis results would be qualified if they received certificates for completion of therapy in 30 days; and (3) extending the deadline for parasite therapy and follow-up examination from 30 days to 45 days. Additionally, in accordance with national policy for people convenience and to speed up the operation procedures for reentering foreign laborers, those who submit certificates issued by the designated hospitals three months before the day of entry may directly apply for the entrance visa and employment permission without the health examination in their own country and the health examination within three days after entry.

Management of Hospitals for the Health Examination of Foreign Laborers

Designated hospitals were assigned to ensure the quality of the health examinations of foreign laborers. The Department of Health, the Executive Yuan announced the “Notes on the Designation and Revocation of Health Examination Hospitals for Alien Laborers” on January, 6th, 1996, which regulated the regional teaching hospitals applying for quality monitoring



and random inspection. If the hospitals were qualified, the hospitals would get the designation as “Hospitals for the Health Examination of Foreign Laborer” by the Department of Health. The Department of Health enforced the “Regulations Governing the Designation and Management of Hospitals for the Health Examination of Employed Aliens after Entry” on July, 13th, 2004 under the authorization of the “Employment Service Act” and terminated the “Notes on the Designation and Revocation of Health Examination Hospitals for Alien Laborers”. Some newly added regulations require the designated hospitals conducting the health examination to receive laboratory accreditation, submit a certificate of intestinal protozoa examination training within the last three years, and the designation is valid for three years. In consideration of time for preparation, designated hospitals are allowed a two-year buffering period to apply for laboratory accreditation. The designated hospitals should get the laboratory accreditation by July 15th, 2006; otherwise the designation would be revoked. In accordance with the new hospital accreditation system, the Department of Health amended some articles of the “Regulations Governing the Designation and Management of the Hospitals for the Health Examination of Employed Aliens after Entry” on September 4th, 2006. In the amended regulations, the qualification for becoming a designated hospital, “qualified as teaching hospital by the new hospital accreditation system” was added. In addition, operational guidelines for the health examination became regulations. There were about 70 designated hospitals for the health examination of foreign laborers from 2001 to July 15th, 2006. To upgrade the quality of health examinations of foreign laborers and to promote the new requirement on laboratory accreditation, CDC of the

Department of Health commissioned other institutions in 2004 and 2005 to conduct a “Survey of the Quality of Designated Hospitals for the Health Examination of the Foreign Laborers” and “Study of Upgrading of Quality of the Health Examination of Foreign Laborers”. They spot checked the service quality of the 32 designated hospitals for the health examination of foreign laborers. A total of 60 hospitals were still designated as health assessment centers for foreign laborers until the end of December 2007. Among the 60 hospitals, 56 hospitals obtained the laboratory accreditation while the other 4 were located on offshore islands. 10 hospitals did not reapply for the designation. Their reasons for not applying include: low number of foreign laborers admitted for health assessment, no desire to continue the health examination of foreign laborers, failure to pass the inspection of operation procedures of the health examination, or non-acceptance by the hospital of the accreditation policy which involves the whole hospital accreditation and not only the accreditation for the health examination of foreign laborers.

Failure Rates of the Health Examination of Foreign Laborers

Statistics supplied by the Department of Health in Table 1 illustrate the results of the health examinations within three days after entry and after working for the blue collar foreign laborers from 2001 to 2007. Results of the examination of foreign laborers within three days after entry, retrieved from the Council of Labor Affairs, the Executive Yuan, reveal the failure in parasite screening was due to the failure in the follow-up examination after treatment. Results of the regular health examination of foreign laborers with extended entry were retrieved from local public



health bureaus, in which the failure in parasite screening was defined as failure in initial screening and follow-up examination after treatment. The different results of standard of failure in parasite screening between the health examination within three days after entry and the regular health examination for workers during the period of employment, led to the latter set of data to be used in the article for further analysis.

Failure rates of the regular health examination of foreign laborers after entry from 2001 to 2003 ranged from 2.39% to 2.65%. Failure rates of parasite screening were the highest, ranging from 2.29% to 2.45%. Since January 15, 2004, the frequency of the regular health examination of foreign laborers was revised from every six months to the 6 months, 18 months, and 30 months during working after entry. Failure rates of the regular health examination of foreign laborers in 2004, 2005, 2006 and 2007 were 2.67%, 3.62%, 6.03% and 7.48%, respectively. Statistical significance of increasing tendency by years is seen in the Chi-square for trend test ($p < 0.001$). Failure rates of parasite screening were found to be the highest. The failure rates of parasite screening in 2004, 2005, 2006 and 2007 were 2.61%, 3.53%, 5.89% and 7.35%, respectively, while failure rates of pulmonary tuberculosis screening in these years were 0.05%, 0.08%, 0.12% and 0.11%. The statistics of failure in parasite screening of foreign laborers from 2001 to 2007 is shown in Table 2. The average failure rate of parasite screening in the past seven years was 3.58%. The more common parasites seen were whipworm 0.30%, hookworm 0.24%, *Giardia lamblia* 0.13%, *Strongyloides stercoralis* 0.10%, and roundworm 0.09%. The “other parasites” that were not listed in specific statistics amounted to 2.61%. Also noted was the significant increase in the screening rates of parasites

Table 1. Statistics of failure in the health examination of foreign laborers in Taiwan from 2001 to 2007

Year	Types of H.E.	Number of Examinees	Number Failed, n (%)	Parasite (+) (%)	T.B. (+) (%)	HIV (+) (%)	Syphilis (+) (%)	HBs Ag (+) (%)	Others (+) (%)
2001	A	126,222	459 (0.36)	166 (0.13)	46 (0.04)	18 (0.01)	35 (0.03)	77 (0.06)	117 (0.09)
	B	520,727	13,785 (2.65)	12,773 (2.45)	315 (0.06)	10 (0.00)	85 (0.02)	2 (0.00)	600 (0.12)
2002	A	131,675	441 (0.33)	134 (0.10)	51 (0.04)	15 (0.01)	30 (0.02)	78 (0.06)	133 (0.10)
	B	488,294	12,758 (2.61)	11,961 (2.45)	233 (0.05)	37 (0.01)	36 (0.01)	NA (NA)	491 (0.10)
2003	A	115,865	248 (0.21)	61 (0.05)	22 (0.02)	20 (0.02)	17 (0.01)	50 (0.04)	78 (0.07)
	B	471,064	11,247 (2.39)	10,787 (2.29)	177 (0.04)	27 (0.01)	57 (0.01)	NA (NA)	199 (0.04)
2004	A	107,593	221 (0.21)	69 (0.06)	33 (0.03)	8 (0.01)	14 (0.01)	39 (0.04)	58 (0.05)
	B	297,396	7,954 (2.67)	7,764 (2.61)	145 (0.05)	10 (0.00)	26 (0.01)	NA (NA)	9 (0.00)
2005	A	117,598	239 (0.20)	67 (0.06)	55 (0.05)	13 (0.01)	10 (0.01)	35 (0.03)	59 (0.05)
	B	285,209	10,334 (3.62)	10,077 (3.53)	238 (0.08)	1 (0.00)	18 (0.01)	NA (NA)	0 (0.00)
2006	A	123,399	311 (0.25)	118 (0.10)	48 (0.04)	26 (0.02)	20 (0.02)	39 (0.03)	60 (0.05)
	B	325,060	19,606 (6.03)	19,145 (5.89)	398 (0.12)	29 (0.01)	33 (0.01)	NA (NA)	1 (0.00)
2007	A	127,121	233 (0.18)	88 (0.07)	27 (0.02)	12 (0.01)	9 (0.01)	60 (0.05)	37 (0.03)
	B	342,958	25,649 (7.48)	25,220 (7.35)	387 (0.11)	13 (0.00)	29 (0.01)	NA (NA)	0 (0.00)
Total	A	849,473	2,152 (0.25)	703 (0.08)	282 (0.03)	112 (0.01)	135 (0.02)	378 (0.04)	542 (0.06)
	B	2,730,708	101,881 (3.73)	98,275 (3.60)	1,893 (0.07)	127 (0.00)	284 (0.01)	NA (NA)	1,300 (0.05)

Notes:

- (1)H.E.; Health Examination; A: Health Examination within three days after entry; B: Regular Health Examination
- (2)Parasite (+) means the number of people infected with intestinal parasites. It is the number of different parasites found. For example, a person who is infected with two kinds of parasites at the same time is represented as two. Regarding the results of those within three days after entry, a failure in parasite screening means failure in the follow-up examination after treatment. For results of regular health examination during working after entry, a failure in parasite screening means failure in both initial screening and follow-up examination after treatment.
- (3)TB (+) means failure in pulmonary tuberculosis screening. HIV (+) means positive antibody reaction to human immunodeficiency virus. HBs (+) means positive reaction to hepatitis B surface antigen.
- (4)Other (+) means failure in other items, including positive reactions in pregnancy tests, leprosy tests, and urine screenings for narcotics.
- (5)Screening of Hepatitis B surface antigen in the regular health examination after entry was cancelled in 2001. Urine screening for narcotics was cancelled since January 15, 2004. The frequency of regular health examinations was changed from every six months to the 6 months, 18 months, and 30 months after entry since January 15th, 2004.



in 2004 and 2007 were 2.61% and 7.35%, respectively. Among the specific items, “other parasites” exhibited the most increase. There was no enrolling code for *Blastocystis hominis* in the “Information System for Health Management of Foreign Laborers”; thus it was encoded into “other parasites”. Domestic papers on incidence rates of parasites in Southeast Asian foreign laborers and spouses of foreign nationality, found in reference [5-7], estimated that *Blastocystis hominis* represents the majority of “other parasites”.

The failure rates of parasite screening by nationality in the regular health examination of foreign laborers from 2001 to 2007 were shown in Figure 1. Malaysian and Mongolian laborers were not enrolled for analysis because of their low representation (<30 people). Distributions of the failure rates in parasite screening by nationality from 2001 to 2007 were: Indonesia, 2.39%~9.74% (average 4.77%); Vietnam, 5.51%~8.01% (average 6.35%); Philippines, 1.80%~6.96% (average 3.43%); and Thailand, 1.28%~4.62% (average 2.24%). By using one way analysis of variance (ANOVA), there is statistically significant difference in failure rates of parasite screening among nations ($p<0.01$). Generally speaking, higher failure rates in parasite screening were seen in Indonesia and Vietnam laborers, whereas lower failure rates were seen in Philippines and Thailand laborers. Foreign laborers working in Taiwan performed a health examination each before entry to Taiwan, within three days after entry, and periodically thereafter. Did their failure rates in parasite screening decrease reflect the sequential regular health examinations? Failure rates in parasite screening of the regular health examination in the 6 months, 18 months, and 30 months of Indonesian workers in 2007 were 10.56%, 9.02%, and 9.24%, respectively. For

Table 2. Statistics of failure in parasite screening of the regular health examination of foreign laborers in Taiwan from 2001 to 2007

Year	Number of Examinees*	Number Failed, n (%)	R	T	G.L.	H	L.F	S.S.	T.O.	W	E.H.	Others
2001	520,727	12,773 (2.45)	208 (0.04)	65 (0.01)	783 (0.15)	1,133 (0.22)	378 (0.07)	737 (0.14)	32 (0.01)	1,250 (0.24)	180 (0.03)	8,007 (1.54)
2002	488,294	11,961 (2.45)	294 (0.06)	48 (0.01)	637 (0.13)	1,031 (0.21)	405 (0.08)	570 (0.12)	18 (0.00)	1,227 (0.25)	149 (0.03)	7,582 (1.55)
2003	471,064	10,787 (2.29)	559 (0.12)	53 (0.01)	472 (0.10)	1,054 (0.22)	315 (0.07)	458 (0.10)	34 (0.01)	1,544 (0.33)	78 (0.02)	6,220 (1.32)
2004	297,396	7,764 (2.61)	581 (0.20)	24 (0.01)	334 (0.11)	927 (0.31)	156 (0.05)	303 (0.10)	78 (0.03)	1,431 (0.48)	19 (0.01)	3,911 (1.32)
2005	285,209	10,077 (3.53)	553 (0.19)	38 (0.01)	333 (0.12)	1,113 (0.39)	165 (0.06)	269 (0.09)	38 (0.01)	1,456 (0.51)	22 (0.01)	6,090 (2.14)
2006	325,060	19,145 (5.89)	203 (0.06)	51 (0.02)	499 (0.15)	739 (0.23)	151 (0.05)	294 (0.09)	11 (0.00)	811 (0.25)	29 (0.01)	16,357 (5.03)
2007	342,958	25,220 (7.35)	152 (0.04)	22 (0.01)	490 (0.14)	603 (0.18)	107 (0.03)	204 (0.06)	11 (0.00)	577 (0.17)	53 (0.02)	23,001 (6.71)
Total	2,730,708	97,727 (3.58)	2,550 (0.09)	301 (0.01)	3,548 (0.13)	6,600 (0.24)	1,677 (0.06)	2,835 (0.10)	222 (0.01)	8,296 (0.30)	530 (0.02)	71,168 (2.61)

Notes:

- (1)*-Number of examinees of the regular health examination; R: roundworm; T: tapeworm; G.L.: *Giardia lamblia*; H: hookworm; L.F: liver fluke; S.S.: *Strongyloides stercoralis*; T.O.: *Trichostrongylus orientalis*; W: whipworm; E.H.: *Entamoeba histolytica*
- (2)*"Other" means other parasites that are not included in the items for statistic analysis
- (3)Since April 22nd, 2003, those who were suspected of infection of *Entamoeba histolytica* should resume the procedure of collecting and sending specimens to the CDC for further molecular biological differential diagnosis.
- (4)"Regulations Governing Management of the Health Examination of Employed Aliens" was implemented on January 15th, 2004. The frequency of the regular health examination was changed from every six months to the 6 months, 18 months, and 30 months after entry. *Blastocystis hominis* was announced as a kind of pathogenic parasite and re-examination after treatment was needed.

Vietnamese laborers, the failure rates were 8.73%, 7.79%, and 7.36%. For Filipino workers, the failure rates were 7.39%, 6.78%, and 6.62%. For Thai laborers, the failure rates were 4.70%, 4.62%, and 4.45%. Overall, the diminishing tendency of failure rates in parasite screening by nationality of foreign laborers regular health examination in the 6 months, 18 months, and 30 months was not obvious.

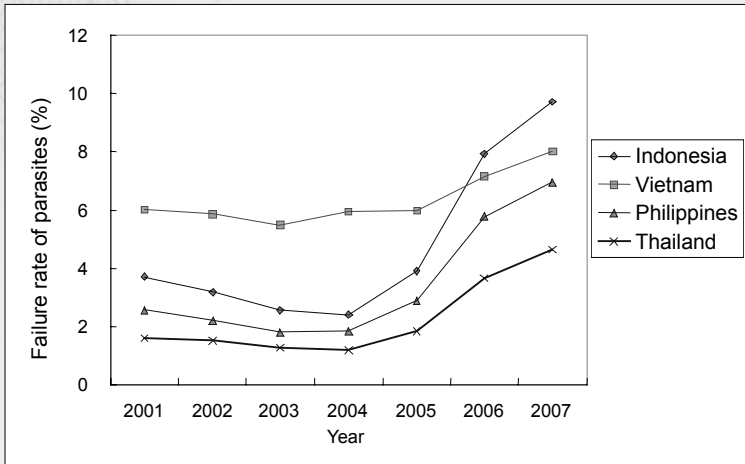


Figure 1. Failure rates in parasite screening of the regular health examination of foreign laborers by nationality from 2001 to 2007

Failure rates in pulmonary tuberculosis screening in regular health examinations of foreign laborers by nationality in 2007 yielded the following: Philippines 0.16%, Indonesia 0.11%, Thailand 0.10%, and Vietnam 0.06%. By the Chi square test, there is statistically significant difference in failure rates of pulmonary tuberculosis screening among nations ($p < 0.001$). According to the World Health Organization data, the incidence rate of pulmonary tuberculosis in 2006 of the above mentioned countries (out of 100,000) were: Philippines 173 (0.17%), Indonesia 234 (0.23%), Thailand 142 (0.14%), Vietnam 173 (0.17%). In Taiwan, the incidence rate of pulmonary tuberculosis in 2006 was 67 out of 100,000 (0.07%), which was far lower than the above mentioned countries. Foreign laborers who failed in the pulmonary tuberculosis screening in the health examination in their own countries and the health examination within three days after entry did not get permission of work in Taiwan. Therefore the

failure rates in pulmonary tuberculosis from the regular health examination of foreign laborers were equal to or lower than the incidence rates of pulmonary tuberculosis in their native countries.

Increasing tendency of failure rates in parasite and pulmonary tuberculosis screening from 2004 to 2007 could be found in comparison to failure rates of the health examination of foreign laborers from 2004 to 2007. Possible reasons why the increase of failure rates in the health examination from 2004 to 2007 occurred could be a result of improved quality of the health examination or cancellation of the health examination in 12 months and 24 months since 2004, which caused an increase of failure rates in the health examination of 18 months and 30 months. The data of the six-month regular health examination were used to analyze the trend of failure rates of parasite and pulmonary tuberculosis from 2001 to 2007 and the results are shown in Figure 2. An increase in the failure rates of parasite and pulmonary tuberculosis screening of the six-month regular health examination could be seen from 2005 to 2007. Quality of the health examination was improved since 2005. It was hard to clarify what measures the health authorities took to improve the quality of the health examination. A series of measures were taken since 2004, including: implementing the “Regulations Governing Management of the Health Examination of Employed Aliens” on January 15th, 2004, including *Blastocystis hominis* as a pathogenic parasite and implementing the “Regulations Governing the Designation and Management of Hospitals for the Health Examination of Employed Aliens after Entry” on July 15th, 2004. The last measure required the designated hospitals to submit a three-year valid qualifying certification for training and tests in intestinal



protozoa examination. This requirement allowed the medical technologists actively participate in the training programs regarding the parasitic microscopic examination. In accordance with the laboratory accreditation requirement administrated from July 2006, the designated hospitals for the health examination gradually established management measures of quality control. The health authorities had commissioned other institutions to conduct quality inspection on the spot for the designated hospitals for the health examination in 2004 and 2005. Since September 2005, field inspections of parasite specimens and chest x-ray films were performed. By summing up the above factors, the detection rates were slightly higher.

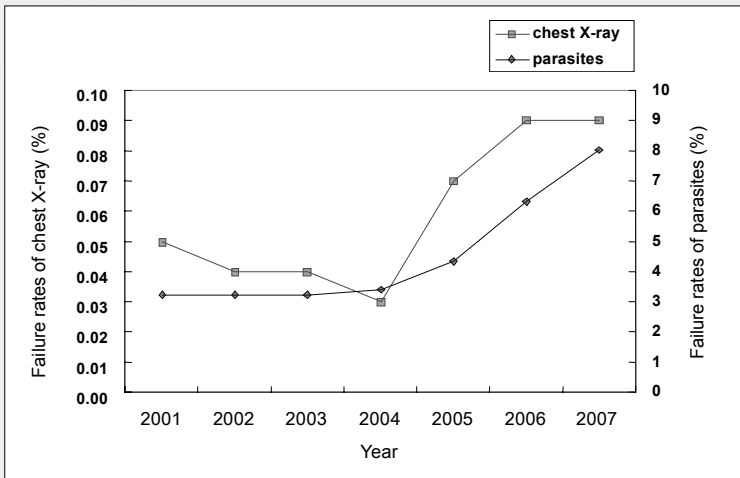


Figure 2. Failure rates in chest x-ray examination and parasite screening of the six month regular health examination of foreign laborers

Regulations for the Health Examination of Foreign Laborers in other Countries

1. Countries that require both a health examination upon entry and a

regular health examination thereafter.

Taiwan adopted the policy of requiring a health examination in entry and a regular health examination for foreign laborers. The Singaporean government enforced similar measures. In Singapore, foreign maids must conduct a health examination within 14 days after entry. Items of the health examination included chest x-ray examination, serological test for syphilis, blood smear for malaria, HIV antibody test, leprosy test, pregnancy examination, and mental status evaluation. They must also be reexamined afterward every six months with a chest x-ray assessment, HIV antibody test, and pregnancy test. If they fail the health examination, their work permits would be cancelled and they would be sent back to their native country immediately.

2. Countries that require a measure of the health examination upon entry

The Hong-Kong government required foreign laborers to submit certificates of health examination when they first applied for work permission in Hong-Kong. Laborers did not have to submit the certificates again during their working period or when they needed to extend their employment contracts. The Canadian government combined the health examination requirement with visa permission for foreigners applying for work in Canada. Whether foreigners had to submit their certificates of health examination depended on their occupation type and length of stay in Canada. The British government required those who would stay in England for more than six months to submit their certificate of health examination at entry into the country at either airports or harbors. If the foreigners did not have the certificates with them upon entering, the medical assessment officials conducted the health examination in the



attached infirmary of airports or harbors. Additionally, chest x-rays are included as an item in the health examination.

3. Countries that need no health examination

On issuing visas for working or extension of residence permission, the Japanese government did not request foreigners to submit their certificates of health examination. Foreigners, who belong to non-immigration visa applicants, who obtained an entrance visa to the U.S. for work, were not requested by the government to submit their certificates of health examination when applying for a visa.

Conclusion

It has been 19 years since Taiwan first began importing foreign laborers. The Department of Health, the Executive Yuan implemented the “Regulations Governing Management of the Health Examination of Employed Aliens” and the “Regulations Governing the Designation and Management of Hospitals for the Health Examination of Employed Aliens after Entry” under the authorization of the “Employment Service Act”. Legalizing the regulation of the health assessments of foreign laborers involved a step by step process with continuous changes over time. Rigid regulations for the health examination of foreign laborers gradually loosened. For example, pregnancy test upon entry was cancelled, frequency of the regular health examination decreased, deadline for treatment and re-examination of parasite infection was extended, and victims of syphilis were allowed to receive treatment in Taiwan. Regarding management of designated hospitals for health examinations of foreign laborers, requirement for laboratory accreditation were introduced. In

addition, through accreditation by the third party, measures for quality assurances for the health examination conducted by the designated hospitals were thus reinforced. And part of the expenditure for field inspection afforded by the public affairs departments was saved.

Since two cluster events of rubella infection of foreign laborers in 2007 and one measles infection of foreign laborer in 2009 were noted, which meant that current items of foreign laborers health examination could not completely prevent from the spectrum of immigrant infectious diseases. Therefore the Department of Health announced the amendment to some regulations of “Regulations Governing Management of the Health Examination of Employed Aliens” in 26th February, 2009. Since 1st September, 2009, results of positive antibody reports of measles and rubella or certificate of preventive vaccination should be added in the foreign laborer health examination before entry (or before returning to home countries due to expired employment terms)

In addition, by current regulations foreign laborers with abnormal chest x-ray findings in their regular health examination should have follow-up examinations in the designated institutions, where sputum smear examination should be done for further confirmation. But some of the foreign laborers with abnormal chest x-ray findings were repatriated by their employers without confirming the diagnosis. Therefore health authorities must implement measures to identify pulmonary tuberculosis among foreign laborers. In the future it is hoped with the allowable capacity of our infectious disease control system, employers would be able to accept infected foreign laborers and encourage them to receive treatment. Thus, in the long run, the chances of canceled employment



permissions for foreign laborers due to infectious diseases will be minimized.

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