

Health Problems and Nursing Regulatory Functions

On the Island of Tinian

Aurelia G. Long RNC, WHNP, FNP
Family Nurse Practitioner
Tinian Health Center, CNMI

Haisai, Kon-nichiha, Hafa Adai, president Noguchi; hello to the Miyako Island students. It's actually a very great honour to be here and a privilege to share islands health of Tinian. Thank you for the invitation, president Noguchi and Midori.

I could not start my discussion of island health without mentioning some of the relationship, great relationship we have had with and connection to Okinawans. In 1914, Japan took possession of the Tinian and administered most of the Micronesian islands for nearly 30 years. By 1940, there were about 15,000 Okinawans living on Tinian. The main industry was sugar. There were more than 5 plantations with a railway. In 1944, Tinian was taken over by the United States. Tinian is part of the Northern Marianas Islands; you would also hear a word "Commonwealth of the Northern Marianas Islands" or "CNMI."

I have to show this beautiful picture that I found in my husband's great collection of pictures from past times when Okinawans were on Tinian. It's an island of Aguiguan, which is about 12 km Southeast of Tinian; approximately 70 households lived there with 330 Japanese. Today, it is uninhabited, which is very sad. There was actually a clinic; you can see the nurse standing right in front of the door.

Tinian, Northern Marianas Islands United States Territory

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Tinian's history- connection to Okinawans

1914 Japan took possession of Tinian and administered Micronesian Islands for nearly 30 years

- By 1940- approx. 15,123 Okinawans were living on Tinian, a town in the making.
- Main Industry was Sugar. There were 5 plantations, with railway.
- 1944- Tinian (Northern Marianas Islands) taken over by the United States

aguiguan- An Island located 12KM southeast of Tinian. Approx 70 households, and 330 Japanese. Today it is uninhabited



▲アギーガン島の南洋興発診療所
看護婦は沖縄県出身の真栄城昌子氏
The clinic on Aguiguan run by the Nanyo Kohatsu Corporation. The nurse standing in the picture is Shoko Maeshiro from Okinawa.

Tinian is a beautiful place. The climate is warm and Humid just like Okinawa. It is just 35 square miles and very small. The military owns three quarter part of the island. The population is 3,500, and 2,200 indigenous Chamorro islanders still live on Tinian. There are 1,300 contract workers; as Sally mentioned, we have a large influx of labour pool because we do not have skilled people to work in Tinian. We have very diverse cultures, which is challenging. We have probably 13 spoken different languages; Sri Lankan, Indian, Chinese, Japanese to name just a few. And they all have different dialects even though they come from the same places because most of them come from very rural small provinces themselves to make a better earning at Tinian.

This is our beautiful little hospital. Tinian Health Center was built in the 1960's; it is well kept, and we try to maintain it as much as possible.

Here is our only emergency room.

Some of our laboratory equipments; and this is actually a new chemistry machine. We can actually do a Chem 12 now, and we can do a Hemoglobin A1c, so that is a very big improvement for the island of Tinian.

Here is an ultrasound machine, but we lack a couple of props to do cirrhotic ultrasound or breast ultrasound.

Tinian Health Center



Emergency room



Laboratory equipment
Chemistry machine
HBAIC machine



Tinian, Northern Marianas Islands

- Tinian 35 square mile Island
- Climate: Warm and Humid
- Population: 3,500
- 2,200 indigenous Chamorro Islanders
- 1,300 Contract workers (Diverse cultures)
- Language spoken: Chamorro, English, other japanese,chinese,korean

Ultrasound machine



Our X-ray machine; when it works, it's very good. But when it does not work, it becomes a very big problem. In case we have a patient that comes in, we have to refer out to the bigger island of Saipan. Saipan and Tinian are under the same commonwealth, so we are very connected under the same umbrella and we help each other very much.

So I will mention Tinian's health problem. They are not very different than what you see in other parts of the world and all the nations in the US, and here that I hear in Okinawa.

Obesity, diabetes mellitus, and hypertension.

These are just some of the most recent reports from CDC. I am sure our data is there, but Tinian and Saipan do not have a reliable data collection and entry system.

So, we need to do an island wide survey, screening survey in order to really get accurate results.

So hopefully, this will be installed by next year, and we can actually start collecting real true statistical information.

In 2007, two Master level students, who were working together on the theses, came onto Saipan and decided to investigate child obesity in the islands of Commonwealth. They went to Saipan, Tinian and Rota. With a help of Public Health Medical Director, Dr. Brostrom, they concluded that 50% of children in public school

X-ray machine



Tinian's Health Problems

Health Problems Top 3

- Obesity
- Diabetes Mellitus
- Hypertension

Obesity

- August 10, 2010:
- Centers for Disease Control released a biennial report on obese Americans. The CDC obesity report said that 2.4 million more Americans became obese from 2007 to 2009, bringing the total to 72.5 million, or 26.7 percent of the population.

Cont... Obesity

- The report estimates the medical costs of obesity to be as high as \$147 billion a year, and stated that medical costs for obese people were \$1,429 higher than those of normal weight.

system were obese.

In Tinian, we did us very small survey just to see what exactly was out in our island. We focused on government employees because we know they work 7:30 (am) to 4:30 (pm) and we knew they would be there. We concluded that 40% of population were obese, mainly males; and the ethnicities that work in those offices are mainly Chamorro islanders, Pacific islanders and Filipino.

Date from the 2007 National Diabetes Fact Sheet gives you a lot of information of how diabetes has increased, and how the rest of world faces these challenges.

The undiagnosed: 5.7 million people; there are probably more. There are more at places that do not have statistical information to share with CDC like our island. That makes the statistics inaccurate.

We have 4,125 registered patients at Tinian Health Center. We use some type of an Excel sheet for registration. I know I mentioned that we only have 3,500 people in Tinian, so some are tourists who are registered; some have died; and some have moved elsewhere. In this 4,125 registry, 129 patients were diagnosed with diabetes, 3 with type DM 1, and 300 patients are found to be borderline diabetics; borderline meaning their blood pressure sugar level is between 101 and about 126.

The 2010 work survey of the group of 91 people; you can see that 41% have family history of diabetes, 11 are diagnosed with diabetes in the last most recent 3 months, 60% drink alcohol – these are mainly males, and as Sally mentioned, they drink to binge; they drink they drink they drink – and 45% smoke. 60% have health insurance because we do have funding from Federal for the service called

Obesity

- Tinian survey of 2007 concluded : 50% of Children of school age are obese
- Tinian's 2010 survey of adult population concluded: 40%, of population were obese. Ethnicity Islanders, and Filipino
- Tinian dept. of Public Health

Diabetes

- **Data from the 2007 National Diabetes Fact Sheet (the most recent year for which data is available)**
- **Total: 23.6 million children and adults in the United States—7.8% of the population—have diabetes.**
- **Diagnosed: 17.9 million people**

Cont... Diabetes

- **Undiagnosed: 5.7 million people**
- **Pre-diabetes: 57 million people**
- **New Cases: 1.6 million new cases of diabetes are diagnosed in people aged 20 years and older each year.**

Diabetes

- Tinian : 4125 registered patients at Tinian Health Center
- 129 patients with diagnosed Diabetes Type II
- 3 with type DM Type 1
- 300 patients Borderline Diabetics

Medicaid. The Medicaid pays all the health care for these people who cannot afford insurance.

The other health concern is Hypertension. As you can see in this slide, this is also information from the United States CDC department; it talks about behavioural studies.

Hypertension is still a grave concern all around the world. The interesting thing was about 70% of those with high blood pressure take medication, and they are controlled, so that is a good study result.

And these are some more information of hypertension from CDC.

I had to put this slide in because in this information, I actually see Guam. Most of the reports which you will find do not have CNMI, they do not have Tinian. When I was doing the preparation for this talk, it was really nice to see Guam. What they are saying is that among adults age of 20 years and older in 2003, between 25% and 28% were found to have a risk factor for elevated high blood pressure.

Hypertension on Tinian; out of 4,125 patients registered, we have 252 patients for hypertension and 500 patients for pre-hypertension. This number is out of the people who are actually registered in our Excel data sheet that we have in the center. We have

Hypertension

- About one out of three U.S. adults—31.3%—has high blood pressure.¹
- High blood pressure is a major risk factor for heart disease, stroke, congestive heart failure, and kidney disease.
- High blood pressure was listed as a primary or contributing cause of death for 326,000 Americans in 2006.²

Hypertension cont...

- 25% of American adults has prehypertension—blood pressure numbers that are higher than normal, but not yet in the high blood pressure range.² Prehypertension raises your risk for high blood pressure.

Hypertension

- **Percent of persons who were ever told they had high blood pressure, Adults aged 20 years and older, 2003**
- **Age adjusted to the 2000 U.S. standard population** 25.5% -28.0%> 28.0% 23.4% -25.4% 20.0% -23.3% Guam, Virgin Islands, Puerto Rico
- **20.0% - 23.3%:** Alaska, Arizona, Colorado, Hawaii, Kansas, Massachusetts, Minnesota, Montana, Nebraska, New Hampshire, New Mexico, North Dakota, Utah, Vermont **25.5% - 28.0%:** District of Columbia, Florida, **Guam**, Indiana, Maryland, Michigan, Missouri, New Jersey, Ohio, Oklahoma, Pennsylvania, Texas, Virgin Islands
- **23.4% - 25.4%:** California, Connecticut, Idaho, Illinois, Iowa, Maine, Nevada, New York, Oregon, South Dakota, Virginia, Washington, Wisconsin, Wyoming **>28.0%:** Alabama, Arkansas, Delaware, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Puerto Rico, South Carolina, Rhode Island, Tennessee, West Virginia
- Source: CDC, Behavioural Risk Factor Surveillance System
- June 2005

Blood sugar Survey of Island workers

- 2010 work survey of 91 people
- 29 borderline diabetes
- Fasting BS 101-125mg/dl
- 41% family history
- 11 diagnosed with diabetes in the last 3 months
- 60% drink alcohol
- 45% smoke
- 60% have health insurance

Hypertension

- Tinian: 252 patients with HTN
- 500 patients- Pre hypertension
- Systolic BP 120-139
- Registered patients at THC 4125

never done a complete survey – has I mentioned – so that it is very difficult to really know what the numbers are. And the pre-hypertension is any blood pressure from 120 to 129.

With our 2010 survey, we also found that 21 were with hypertension in last 6 months, 35 were extremely high risk, 51% had family history, 60% drink alcohol (mostly males) 45% smoked (mostly males), and 60% had health insurance.

In our Public Health, we are very limited with staff; you will see it by our numbers. Our medical assistant is 1; our registered nurse is 1; data entry is 2 – data entry is only for immunization, and that is the only system we do have – Family Nurse Practitioner is myself, and supporting staff is five – when I talk about supporting staff, everybody helps; nurses, volunteers, different ancillary staff, and they accommodate us with our activities, programs, and outreach.

Some of the programs for we have to combat such illnesses and diseases that we have in our island. We have breast and cervical screening program, which is a free service to women who do not have insurance, and family planning program, that is, different types of birth control method.

We also instituted a diabetic 2 day clinic.

It is a complete full service salon in which they get registration and get to be seen by physical therapy – podiatrist if we have podiatrist available for foot inspections – they get to see the ophthalmologist for an eye exam, they get to have a session with a nutritionist, and after the nutritionist, they get some blood work, which is usually just a Hemoglobin A1c. While they are waiting the results to come out in ten minutes, I get to see them and manage the diabetes whether they are on insulin or on medication. I work with them until they are managed. The compliance can be poor sometimes, but I believe these clinics have helped them enormously for the compliance of those diabetics because they are constantly being seen by us. They come in the clinics for they have scheduled the appointment. Every year in November, it is a kick-off for diabetes.

Blood Pressure Survey of Island workers

- > 91 surveyed 2010
- > 35 high risk
- > BP 139/89
- > 21 with HTN in last 6 months
- > 51% family history
- > 60% drink Alcohol
- > 45% Smoke
- > 60% have health insurance

Public Health

- > Medical assistant 1
- > Registered Nurse 1
- > Data entering 2
- > Family Nurse Practitioner 1
- > Supporting staff 5
- Accommodates activities, programs, outreach

Public Health

Activities/programs

1. *Breast and cervical screening program*
2. *Family planning program*
3. *Wise women village project*
4. *Diabetic 2 day full service clinic*
5. *Numerous health walks/free glucose checks and Blood Pressures*
6. *CDAC*
7. *Tuberculosis (Chest clinic)*

We have a Children's Developmental Agency program. If we identify any deficiency during children's examinations or parents come in with concerns – such that something is happening to our child, my child just keeps jumping around the couch, I am not sure what is happening with him – we refer to this program. They have a speech therapist, a behavioural therapist and other team members that help with this child to diagnosing properly.

We also have Tuberculosis on the island, but apparently right now we only have two. We do have a chest clinic that I put together in 1997. It was my first day at work, and I had 10 smear-positive patients for tuberculosis, so we had to institute an emergency response. CDC came, and then we put out chest clinic together.

We actually have a teen clinic, which I started about in 2000. In this clinic, my teenagers have special privileges, they can come and see me

anytime, they do not have to register, they come in groups of 3 to 4, and I get to talk to them about abstinents, general hygiene, and about birth control method if they needed it at the particular visit; and normally they do by that time if they come to see me. I do not make them wait. They are my VIPs.

We do contractor physical examinations. At those examinations we try to really educate the contract workers. They have no money, so it is very difficult for them to be seen for health care reasons. They would wait until it is too late

Prenatal care is one of my passions. We try to educate them regarding other health issues during prenatal care and during their follow-up visits. We do the pap smears (Pananicolaou test) and breast exams. We talk to them about vitamins, exercise; cutting down salt, and all other prevention programs you normally see. For them to get educated out in the community – for us in the office – is one time shot. We have to educate them as much as possible when we see them.

We have free flu vaccinations, H1N1, like everybody else has. MC4, meningococcal vaccine became available a month ago, so now we are trying to give these vaccinations to kids going after college between ages 11 to 18. And I just heard that they are actually recommending also DTap booster for age of 65 and older because of the Pertussis; so we will be doing that I am sure when I get back.

Activities in schools; we work very closely with the public school system and have increased an enormous amount of activities. They have new track and field; it is beautiful and like an Olympic style track. We see a lot of kids and families walking there in the afternoons. Some of the

Public Health cont...

- Well baby exams and vaccinations
- Contract workers Physical exams
- Prenatal Care
- Teen Clinic
- Free flu vaccines/H1N1
- MC4 (meningococcal)11-18

Activities

- School increased extracurricular activities
- Track and field / new track
- Volley ball teams
- Dance revolution for elementary students
- Teachers after school aerobics
- Increase by 50-60% of people walking beach path
- sidewalks- 30% increase in walking

teachers have started volleyball teams after school for the teachers and for the high school students. Dance revolution is just the name of a dancing activity; we have hula hula. We have an aerobics for the teachers. We have a lot of different activities that they got through a grant. I can honestly tell you, in the last 5 years, people are moving their bodies. I see them walking around; we have side-walks now around the village. They are washing their own cars. We see a lot of movement, and I think that is really a plus.

The only thing we lack is having staff in the public health to be able to do outside teaching, to be able to put more symposiums and conferences. We should do a simple menopausal class or invite diabetics to talk about sexual dysfunction. There are a lot of medications that cause sexual dysfunction, but a lot of it is very culturally sensitive, so a lot of them do not want

to tell you at the visits. I wish we could have more public awareness outside of the clinic. It is my biggest goal to try and take what we teach in the clinic out to the people in Tinian, so that they can have more awareness and they can address their issues.

We do have a gym, and they have lots different things in the gym as you can see on my slide. We have tennis courts with the night lights. We pay 25 cents for an hour, and I think it is not bad. We have summer youth programs that include soccer, basketball, local dancing classes, and lots of weaving classes for the kids to keep the cultural practices.

This is my adorable Tinian Health Center nursing staff. You will see a person in the bright red shirt with a cowboy hat; that is our current mayor. He was elected in the office last November 2009. He is very supportive and trying to make more public awareness of public issues. I think he is going to very much support our health screening for every individual on the island. To your right, at the bottom row, you see our acting director, Raymond Delacruz Jr. who is the son of the mayor. The mayor is Raymond Delacruz, and the son is the Jr. who is managing the clinic. However, as Sally mentioned, we do not have a lot of educated managers and politicians, so sometimes it creates a very big challenge because our ideas may not be their ideas. And even if you justify the reasons why it would work, it still is very difficult.

Our clinic has some challenges even though we do live in paradise. We suffer from a lot of different challenges. In 2008, our clinic was threatened to shut down. We only had one physician, myself as a nurse practitioner and a physician assistant. The physician had a mild stroke and had to resign. That afternoon, I received a call that I needed to close down the clinic.

Activities cont...

- Gym: weights, badminton, treadmills
- Tennis courts w/night lights
- Summer youth program
- Soccer
- Local Dance/singing
- Basketball

THC Nursing staff



Of course, as a nurse, I am not going to close down the clinic. So I decided to call an emergency meeting; who was Arley Long to call an emergency meeting? Most of my legislators would be busy killing cows, the other one was off the island, the other was doing other things, and so I was the only one at the clinic at the moment when this happened and when I got a call, I felt that the responsibility was on my lap. So we organized an emergency meeting and did a lot of education to one of the senators on Tinian, Joseph Mandiola. He was educated correctly to introduce a bill in March 2009 to allow nurse practitioners to work autonomously with full prescriptive privileges. He did his own research and got his own information from his legal councils. The governor signed it into law in March 2009. So our clinic would never be threatened to be shut down. Our physician assistants still struggle with challenges because

they have to be supervised by a physician, but at least, if we had a nurse practitioner in the clinic, we can still give day-to-day services to the people who live on Tinian.

The center is currently staffed with a family practice physician, myself as a family nurse practitioner and a medex; medex is a similar to a physician assistant who is trained in the military. He is very well trained and has an enormous amount of experience. We have 5 registered nurses, 5 licensed practical nurses and 3 assistant nurses.

The nursing staff assists all departments. We have an emergency department, the nursing station and a triage area which is at the entrance of the hospital. The triage plays a very vital role in the health center. Since it is our only clinic in the island, the nurses need to identify what is public health, what is urgent care, and what is emergent, who needs to be seen first. Since we have clinic hours 7:30 to 4:30, they need to know who can be seen and who can wait for tomorrow. They also assist in public health; we have one there. They also assist us as providers. They usually help us with paper work to fill out for laboratory exams, referrals, follow-up patients, and care finding out how they are doing; if I have a couple that I am thinking about, they will continue to follow them up then see how they are feeling if they are not coming back to the clinic.

We have some of these advertisements from Public Health. We were very aggressive with the HPV vaccine.

Nursing Functions

- Tinian Health Center the **only** clinic on Island was threatened to shut down in July 2008, due to the resignation of the only Physician.
- Nurse Practitioners Autonomy : Signed into Law March 2009, and were granted autonomy to practice their Appropriate scope of practice, Licensed with full prescriptive privileges. Regulated by the Commonwealth Nurse Examiners.
- THC presently staffed with a Family practice Physician , a Family Nurse Practitioner, and a Medex.
- Registered Nurses 5
- Licensed Practical Nurses 5
- Nursing assistants 3

Nursing Functions cont...

- The nursing staff assist in all departments.
- Emergency department
- Nursing station
- Triage
- Public Health
- Assistant to providers

We targeted the school age from 9 year old to high school students. This may give you some ideas about our campaign that we did. In Tinian, all of our high school students are vaccinated, and most of our elementary – 9 year old through 14 – are vaccinated. We did not get as much resistance from the parents as we expected, so most of them were all able to be vaccinated. We should be finishing up the last batch soon.

And this is some advertisement. There is a daughter and a mother talking about how to protect your daughter.

There are other health problems. I just want to mention that we come across with a lot of interesting things in an island health. It is not just a clear cut diabetes, hypertension and obesity, but we also have other diseases just like in any other place. This little girl had congenital hemangioma. You will see on the next picture when she was very little.

It was taken when she was about a year and half years old. We were so ecstatic when we found out that a plastic surgeon was coming to Saipan and he actually did an operation on her for free. She is a little Filipino baby; they do not have insurance. She actually got it removed. I wish I had a recent picture of her, but she moved back to the Philippines before we can get

Campaign Target

- 9th to 12th Grade Females in the CNMI
- Both Public and Private Schools (12 total schools)
- Vaccinate at least 95% of all high school girls in the CNMI in SY2007-2008
- Estimated Number of students:
 - PSS: 1553 (Saipan, Tinian, Rota)
 - Private: Less than 200



Other Health Problems Hemangioma



CNMI Campaign against Cervical Cancer

- Sixth grade students will begin routine vaccination in 2007
- High School girls will be vaccinated at school
- Girls under 19 years old who are not in school

Hemangioma repair



a picture. She looks absolutely beautiful. Hemangioma was completely gone, and minimal scarring. We are really happy about some of the things that we are able to take care of even though we have limited resources.

This is the famous Tinian Taga beach. You see me and three little kids. I have two little twin daughters and my son. You can see the passion I have for public health awareness because we are from there, we live there, that is our place, that is our community, and we want to help make it a very healthy community.

That is it; thank you so much for your attention.

TinianTaga Beach



TINIAN

