The background features several large, overlapping, colorful swirls in shades of purple, green, and blue. Scattered throughout are numerous small, yellow, triangular shapes that resemble confetti or starbursts.

**Introduction to
medical translation
for high school
Spanish students in
Rochelle, Illinois**

Need for medical translators in the United States

- Currently 21 million Americans speak limited or no English (up 50% from 1990, with those who speak Spanish as their primary language up 60% over that same time)
- No good statistics right now for how often translation must be used and for how effectively current translation systems function
- Studies do show that many non-English speakers have no translation systems available and thus avoid the health care system until very ill




Current translation systems

- Bilingual health care providers or trained medical translators (both rare, but ideal)
- Telephone translation services
- Classes which teach basic medical phrases in two languages for physicians and nurses
- Hiring bilingual clerks, secretaries, or janitors who can also serve as translators





Problems with current translation systems

- Fluency in two languages does NOT guarantee an understanding of complex medical jargon in both languages
- Telephone is very inconvenient in intense situations (e.g. childbirth)
- Vast shortage of bilingual health care providers and trained medical translators



A unique proposal for dealing with the medical translator shortage

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- Begin training translators in high school
 - Many high schools have existing Spanish departments
 - Development of a high-yield introduction to medical translation unit for insertion into a high school Spanish curriculum

Introduction to medical translation

- One-week-long unit developed and inserted into the curriculum of five Spanish classes at Rochelle Township Community High School in October, 2003
- These five classes included one class of already-bilingual freshmen, two Spanish IV classes consisting mostly of students with no Spanish background prior to high school, one Spanish IV honors class comprised predominately of Hispanic students speaking fluent Spanish, and one more Spanish IV classes with no predominant population

Monday – vocabulary sheets handed out and reviewed

Vocabulario del laboratorio

CAT scan	<i>escán TAC (tomografía axial computada)</i>
MRI scan	<i>escán IRM (imágenes por resonancia magnética)</i>
x-ray	<i>rayos X</i>
blood tests	<i>análisis de sangre</i>
ultrasound	<i>ultrasonido</i>

Enfermedades específicas

cataracts	<i>cataratas</i>
tuberculosis	<i>tuberculosis</i>
otitis media (ear infection)	<i>infección de la oreja</i>
strep throat	<i>faringitis</i>
bronchitis	<i>bronquitis</i>
asthma	<i>asma</i>
heart attack	<i>ataque de corazón</i>
stroke	<i>emboló</i>
appendicitis	<i>apendicitis</i>
pancreatitis	<i>pancreatitis</i>
ulcer	<i>úlcera</i>
hernia	<i>hernia</i>
gall stone	<i>cálculo biliar</i>
kidney stone	<i>cálculo renal</i>
urinary tract infection	<i>infección urinaria</i>
Down's Syndrome	<i>síndrome de Down</i>
acne	<i>acné</i>
pneumonia	<i>pulmonía/neumonía</i>
polio	<i>polio</i>
whooping cough	<i>tos ferina</i>
diphtheria	<i>difteria</i>
tetanus	<i>tétano</i>
measles	<i>sarampión</i>
mumps	<i>papera</i>
rubella	<i>rubéola</i>
hepatitis	<i>hepatitis</i>
influenza	<i>gripe</i>
chicken pox	<i>viruela</i>
high blood pressure	<i>alta presión</i>
diabetes	<i>diabetes</i>
arthritis	<i>artritis</i>
high cholesterol	<i>alta colesterol</i>
depression	<i>depresión</i>
emphysema	<i>enfisema</i>
congestive heart failure	<i>insuficiencia cardíaca congestiva</i>
anemia	<i>anemia</i>

Vocabulario de la física

lie down	<i>acuestese boca arriba</i>
don't move	<i>no se mueve</i>
breathe deeply	<i>respire profundo</i>
swallow	<i>trague</i>
do this	<i>hace así</i>

Vocabulario de anatomía

lymph node	<i>ganglio linfático</i>
heart	<i>corazón</i>
lungs	<i>pulmones</i>
liver	<i>hígado</i>
pancreas	<i>páncreas</i>
spleen	<i>bazo</i>
small bowel	<i>intestino</i>
colon	<i>colon</i>
kidneys	<i>riñones</i>
bladder	<i>vejiga</i>
gall bladder	<i>vesícula</i>
skin	<i>piel</i>
uterus	<i>matriz</i>
artery	<i>arteria</i>
nerves	<i>nervios</i>
vein	<i>veno</i>
tendons	<i>tendón</i>
thyroid	<i>tiroide</i>

Vocabulario sobre el dolor

discomfort	<i>molestia</i>
crushing	<i>aplastador</i>
squeezing	<i>apretador</i>
constant	<i>constante</i>
intermittent	<i>intermitente</i>
pressure	<i>presión</i>
tension	<i>tensión</i>
burning	<i>ardiente</i>
sharp	<i>agudo</i>

Monday (continued) – the format and sections of a medical history were reviewed with the students

Formato de la historia

1. Problema principal (chief complaint) – un frase corto que explica porque el paciente esta viendo al doctor; e.g. “dolor de la cabeza”
2. Historia de la enfermedad presente (history of present illness) – las detalles de la problema principal mas la edad, el sexo, y la raza del paciente; e.g. Nuestro paciente es un hombre mexicano que tenga 64 anos. Hace dos anos que el paciente tiene dolores de cabeza. Solo los tiene por las tardes. El dolor esta en el trasero de la cabeza y en el cuello. Tiene los dolores dos-tres veces cada semana.
3. Enfermedades/operaciones pasados (past medical/surgical history) – una lista de las problemas de salud que tenga el paciente y operaciones que ha tenido aparte de la historia de la enfermedad presente; e.g. Nuestro paciente con los dolores de cabeza tambien tiene la diabetes, alta presion, y alta colesterol. Tuvo operacion para quitar el apendice en 1972.
4. Historia de la familia (family history) – problemas de la salud que tengan otros miembros de la familia del paciente; e.g. Su padre murio de ataque de corazon a la edad de 58. Su madre tiene la diabetes. Tiene un hermano que tuvo cancer del estomago.
5. Historia social (social history) – informacion sobre donde vive el paciente, sobre el empleo, y si fuma, toma alcohol, o usa drogas ilegales; e.g. Vive con su esposa en Rochelle. Es pensionado, pero habia trabajador en una empresa. Hace tres anos desde que dejo de fumar, pero antes, fumaba diez cigarillos cada dia durante 40 anos. No toma alcohol o usa drogas ilegales.

6. Medicamentos/alergias (medications/allergies) – una lista de las medicinas que toma el paciente. Tambien una lista de las alergias; e.g. Toma metformin por su diabetes, metoprolol y enalapril por su alta presion, y Zocor por su colesterol. Tiene alergia a penicilina.
7. Vacunas (vaccines) – una lista de las vacunas que se recibieron. Usualmente, en un adulto, solamente preguntamos sobre el gripe, el tetano, la neumonia, y de vez en cuando el hepatitis B; e.g. Recibio vacunas contra el gripe, el tetano, y la neumonia. No sabe si recibio la vacuna para el hepatitis.
8. Repaso de sistemas (review of systems) – Muchas cuestiones sobre otras problemas posibles. No vamos a preocuparnos sobre este.

Monday's homework, "Your First History"

- The homework, shown at right, instructs the students to "Use ALL the following sentences to create a history in the correct format."
- Students were expected to put sentences such as "Her parents are healthy" into family history or "She's diabetic" into past medical/surgical history, etc.

Tu primer historia

Utilice TODAS las frases siguientes para hacer una historia en el formato correcto.
Escribe la historia en otro papel para entregar mañana.

- No usa drogas ilegales.
- Es diabética.
- Tiene alergia al erythromycin.
- La paciente es una mujer caucasica que tenga 17 años.
- Vive con sus padres.
- Se midio una fiebre de 101 grados en casa.
- Sus padres son sanos.
- Esta marcada.
- No fuma.
- Recibio todas las vacunas de ninez.
- Tiene dolores de estomago.
- Vomitos.
- Es estudiante en Rochejle High School.
- Toma insulina por su diabetes.
- Siente muy cansada.
- Nunca tuvo una operacion.
- No tiene ganas de comer.
- Tiene un hermano con la fibrosa cistica.
- Hace tres días que tiene los vomitos.
- No toma alcohol.

Tuesday

- The entire class period was used to correct Monday's homework, with emphasis placed on reviewing the proper format of a medical history
- Answers to Monday's homework are at right →
- How did you do?

Respuestas a la tarea

CC: Vomitos.

HPI: La paciente es una mujer caucasica que tenga 17 anos. Hace tres dias que tiene los vomitos. Tiene dolores de estomago. No tiene ganas de comer. Se midio una fiebre de 101 grados en casa. Esta mareada. Siente muy cansada.

Med/Surg Hx: Es diabetica. Nunca tuvo una operacion.

Fam Hx: Sus padres son sanos. Tiene un hermano con la fibrosa cistica.

Soc Hx: Vive con sus padres. Es estudiante en Rochelle High School. No fuma. No toma alcohol. No usa drogas ilegales.

Meds/All: Toma insulina por su diabetes. Tiene alergia al erythromycin.

Vacunas: Recibio todas las vacunas de ninez.

ROS:

Tuesday's homework

- The homework sheet is reproduced here →
- Note the emphasis on the vocabulary in this assignment

Your Second History

On another piece of paper, translate the following history into Spanish. Make sure to use proper spelling and grammar, as well as the proper format.

Chief Complaint: chest pain

History of Present Illness: Mr. Hewson, a 42-year-old black man, has had constant, crushing chest pain for three hours. He is worried that he's having a heart attack. The pain started while he was at work.

Past Medical/Surgical History: The patient has high cholesterol and high blood pressure. He has an ulcer in his stomach. He has had two operations, one for appendicitis and one to remove his gall bladder.

Family History: The patient's father died of congestive heart failure. The patient's mother is alive, but had a stroke last year. One brother has Down's Syndrome.

Social History: The patient is a carpenter. His married with three children. He smokes twenty cigarettes a day, and very rarely drinks alcohol. He doesn't use illegal drugs.

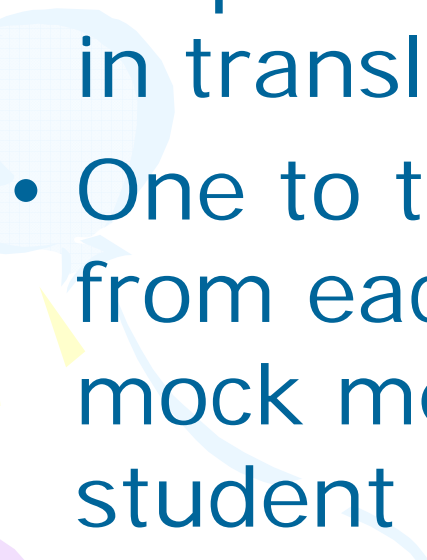

Medications/Allergies: The patient takes Zocor, verapamil, Uniretic, and ranitidine. He is allergic to codeine.

Vaccines: He has not received a flu shot or the pneumonia vaccine. He got the hepatitis B vaccine two years ago.

Review of Systems: Negative.



Wednesday

- This class period was used to review Tuesday's homework carefully with emphasis on using proper vocabulary in translation
 - One to two students were chosen from each class period to elicit a mock medical history from the student doctor (i.e. the high school student played the part of the physician, and the student doctor played the part of the patient)
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Thursday – review day

- Several mock histories were performed, with the students acting as physicians and the student doctor acting as patients
- A portion of each class period was used for a “drill” type review of vocabulary in which the teacher rapidly points to varying students in the class and gives a vocabulary word in either Spanish or English and the student must rapidly translate the word into the other language
- All content questions were answered

Friday – test day

- After the exam, students were given the opportunity to ask questions about the medical professions
- Most questions centered on length and type of training involved in various health care careers

Examen

Traduzca de inglés a español.

1. congestive heart failure _____
2. measles _____
3. gall bladder _____
4. thyroid _____
5. crushing pain _____
6. lymph node _____
7. emphysema _____
8. urinary tract infection _____
9. ultrasound _____
10. hepatitis _____

Traduzca de español a inglés.

11. tos ferina _____
12. paperas _____
13. vejiga _____
14. dolor apretador _____
15. matriz _____
16. cálculo renal _____
17. viruela _____
18. diabetes _____
19. tiroide _____
20. dolor ardiente _____




Future possibilities

- The week long unit presented above will be used by Mrs. Patsy Mullin at Rochelle Township High School again next year and indefinitely thereafter
- Creation of a month-long curriculum designed specifically for students who are already fluent in both English and Spanish would allow more in-depth training for students perfectly suited to serve as translators



References

1. Doctors struggle with language barrier. (2003, September 2). [The Rockford Register Star](#), 4A.
 2. U.S. Census Bureau FactFinder.
<factfinder.census.gov>
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