>>> GOOD MORNING, EVERYONE.

WE ARE REALLY DELIGHTED TO HAVE

YOU-ALL HERE AND HOPE EVERYBODY

WAS ABLE TO GET IN WITHOUT ANY

DIFFICULTY.

AND I WANT TO JUST COVER A FEW

LOGISTICS BEFORE WE GET STARTED

TODAY.

THE FIRST IS IF YOU COULD PLEASE

TURN OFF YOUR CELL PHONES.

REMEMBER THIS WILL BE STARTING

AT 8:30, WE WILL BE DOING THIS

AS A LIVE WEBINAR.

SO PEOPLE WILL BE ABLE TO HEAR

YOU OWE YOUR CELL PHONE FROM

EVERYWHERE.

SO PLEASE TURN OFF YOUR CELL

PHONES.

IN ADDITION, BECAUSE WE WILL BE

DOING THIS WITH A WEBINAR, WHEN

YOU HAVE A QUESTION, THERE IS

MICROPHONE IN THE BACK OR USE

THE MICROPHONE FOR THE FACULTY

CHAMPIONS WHO ARE SITTING AT THE

TABLE.

PLEASE PRESS THE BUTTON.

THE RED LIGHT WILL TURN ON.

MAKE SURE YOU USE THE

MICROPHONES WHENEVER YOU HAVE A

QUESTION OR PART OF THE

DISCUSSION AND THEN WHEN YOU'RE

DONE, PUSH THE BUTTON TO TURN

THE MICROPHONE OFF.

A COUPLE OF ADDITIONAL ISSUES.

WE WILL BE ACCEPTING QUESTIONS

FROM THE WEBINAR PARTICIPANTS.

SO IN ADDITION TO YOU-ALL, WHO

ARE OUR PRIORITY GROUP, IF THERE

IS TIME WE WILL HAVE OUR

SPEAKERS ANSWER QUESTIONS THAT

WILL BE COMING THROUGH THE

COMPUTER SYSTEM.

AND THEN, EILEENE ON THE SIDE

THERE IS OUR CONFERENCE

COORDINATOR EXTRAORDINAIR.

AND IF YOU HAVE ANY QUESTIONS

ABOUT LOGISTICS, PLEASE FEEL

FREE TO TALK WITH EILEENE.

THE RESTROOMS ARE BACK DOWN THE

CORRIDOR AND TURN LEFT AS IF

YOU'RE GOING BACK TO THE

ELEVATOR.

AND SO HOPEFULLY THAT WILL TAKE

CARE OF MOST OF THE LOGISTICS OF

ANYTHING.

IS THERE ANY LOGISTIC QUESTION

THAT PEOPLE HAVE BEFORE WE GET

STARTED?

GOOD.

I WANT TO INTRODUCE THE PERSON

WHO IS THE CO-CHAIR WITH THIS

WITH ME, DR. JEAN JENKINS.

WE TRIED TO GET AROUND THE ROOM

TO INTRODUCE OURSELVES TO

EVERYBODY.

WE MAY HAVE MISSED A FEW PEOPLE.

JEAN SEAN EXTRAORDINARY TRAVELER

IN ADDITION TO EVERYTHING ELSE.

HENCE OUR TRAVEL PICTURES AND

THEN I AM KATHY.

AND SO WE HAVE BEEN WORKING

TOGETHER TO MOVE FORWARD GENETIC

AND GENOMIC COMPETENCY FOR ALL

NURSES AND THE FACULTY IS THAT

VITAL ROLE OF ALL OF THIS IN

PREPARING THE NEW NURSES THAT

ARE COMING INTO THE FOLD.

SO, WHAT DO WE MEAN BY FACULTY

CHAMPION?

WE ARE CALLING YOU FACULTY

CHAMPIONS.

WHAT IS THAT?

WE THINK OF THAT AS PEOPLE WHO

ARE REALLY PASSIONATE FOR A NEW

IDEA AND WITHIN YOUR SCHOOL ARE

GOING TO BE ABLE TO LEAD AND

TEACH OTHERS AND ARE GOING TO BE

ABLE TO PUT THE ENERGY INTO THIS

INITIATIVE TO MOVE SOME OF THIS

FORWARD FOR YOUR SCHOOL.

THAT'S ONE OF THE REASONS WHY

THIS WAS A COMPETITIVE AF

INDICATION AND WONG OF THE

REASONS WHY WE ARE REALLY

LOOKING AT THAT YEAR-LONG

COMMITMENT.

THIS IS NOT THE KIND OF THING

YOU CAN GO HOME AND BE DONE WITH

OVERNIGHT.

YOU'RE LIKE THE GATEKEEPER, THE

PERSON THAT PEOPLE CAN GO TO
WITHIN THE SCHOOL AND WE KNOW
THAT CHAMPIONS WHO ARE EFFECTIVE
ARE ABLE TO ACCELERATE HOW LONG
IT WOULD TAKE TO TAKE AN
INNOVATION AND MOVE IT INTO
EITHER PRACTICE OR EDUCATION.
AND THAT'S WHY WE HAVE CHOSE
TONE SORT OF TAKE THAT APPROACH.
SO, WHY DO WE WANT TO DO THAT?
I THINK WHEN DR. GUTTE MACKER
COMES TO SPEAK TO US TO DELIVER
OUR KEYNOTE ADDRESS, IT'S A
TESTAMENT TO HOW RAPIDLY THIS IS
MOVING OUT AND CAN MOVE INTO
PRACTICE.
AND SO WE NEED TO BE ABLE TO
RESPOND TO THAT.
NURSES ARE IN EVERY SETTING.
I DON'T NEED TO TELL YOU ALL OF
THAT.
AND ARE BEING CONFRONTED WITH
THAT EVERY DAY.
SO AS A CONSEQUENCE, WE NEED TO
BE ABLE TO THINK ABOUT HOW

QUICKLY WE CAN RESPOND TO THESE

ISSUES.

SO, WHO ARE THE PEOPLE WHO ARE

HERE TODAY?

WE APPRECIATE EVERYONE

COMPLETING THE SURVEY.

IT'S VERY HELPFUL FOR US IN

TERMS OF PLANNING OUR YEARS

WORTH OF ACTIVITIES.

WE ARE REALLY GOING TO BE

RELYING ON YOU TO GUIDE US ON

HOW REMOVE FORWARD AND WHAT WE

ARE GOING TO DO.

AND CLEARLY WE THINK THAT

UNDERSTANDING WHAT YOUR NEEDS

ARE IN BEING ABLE TO RESPOND TO

WHAT YOU NEED TO MOVE THIS

FORWARD WITHIN YOUR SCHOOL IS

GOING TO BE THE MOST EFFECTIVE

APPROACH.

AND SO WE WANTED TO KNOW WHETHER

YOU THOUGHT THIS WAS IMPORTANT

AND CLEARLY MOST PEOPLE THINK

THIS IS IMPORTANT.

AND THAT THE MAJORITY OF YOU ARE

AT A POINT WHERE YOU'RE GOING TO
BE ADOPTING CURRICULUM CHANGES
WITHIN THE NEXT 6 MONTHS.
THERE ARE SOME PEOPLE WHO ARE
GOING TO DO IT IN LESS THAN 30
DAYS AND A FEW PEOPLE WHO HAVE
ACTUALLY DONE THIS ALREADY.
AND SO THAT IS A GOOD COMPLIMENT
BECAUSE YOU ARE A GROUP THAT
WOULD BE WORKING TOGETHER AND
WOULD BE ABLE TO LEARN FROM EACH
OTHER'S EXPERIENCES.
BUT YOU'RE ALL PRETTY MUCH IN
THE SAME BOAT.
NOT ANY ONE GROUP STANDING OUT
ABOVE THE OTHERS.
MOST PEOPLE FEEL THAT THERE IS
OR ARE CHANGES THEY CAN MAKE TO
THEIR CURRICULUM TO MAKE ROOM
FOR GENETICS AND GENOMICS AND
PART OF WHAT WE ARE GOING TO DO
IS COVER SOME OF THAT.
AND FROM SOME OF OUR FACULTY
EXEMPLARS, THAT WE HAVE BROUGHT
IN HERE TO SHARE THEIR EXPERTISE

WITH YOU.

WE WERE REALLY INTERESTED IN

SEEING WHAT ARE THE BARRIERS?

BECAUSE THOSE ARE THE KINDS OF

THINGS WE WILL TRY TO HELP

ADDRESS.

AND SO CLEARLY THERE ARE 4

THINGS THAT STOOD OUT AND ONE

IS, ENCLEX.

WE ARE UNLIKELY TO INFLUENCE

THAT PROCESS.

THAT IS NOT A HIGH ENOUGH

PRIORITY AND WE APPRECIATE THAT.

THERE ARE A WIDE VARIETY OF

PRIORITIES OF, WHAT DO WE TEACH

OUR STUDENTS AND HOW DO WE DO

THAT AND HOW DO WE BALANCE WHAT

IS REALLY THE MOST IMPORTANT AND

WE APPRECIATE THAT.

AND SO WE ARE LOOKING AT

STRATEGY THAT IS CAN HELP YOU DO

THIS SO IT'S NOT SO BURDENSOME.

AND THE CURRICULUM IS TWO-FOLD.

WE KNOW THAT ALREADY.

AND THAT IS WHY WE BROUGHT IN

PEOPLE TO GUIDE SOME OF THIS TO

ASYMPT IF YOU HOW YOU COULD

THINK ABOUT DOING THIS A LITTLE

DIFFERENTLY AND THAT THE FACULTY

ARE NOT KNOWLEDGEABLE.

WE WERE NOT SURPRISED BY THAT

BUT IT IS A GOOD VALIDATION OF

WHAT WE THOUGHT.

IT'S THAT PEOPLE DON'T FEEL THEY

HAVE A COMMAND OF THAT MATERIAL.

THIS PROGRAM TODAY IS NOT GOING

TO GIVE YOU-ALL OF THAT

INFORMATION.

OUR INTENT IS TO SET A PLATFORM

OF WHICH TO BUILD OVER THE NEXT

YEAR AND TO PROVIDE YOU WITH A

FRAMEWORK OF STRATEGIES YOU CAN

USE TO MOVE THIS FORWARD AND WE

KNOW THAT NONE OF US ARE GENETIC

AND GENOMIC EXPERTS AND I'M

ALWAYS AFRAID IF I START TALKING

TO THE SCIENTISTS, I MIGHT GET

SOME SCIENCE ON MY SHOES.

SO WE ARE GOING TO BE ALL

WORKING TOGETHER TO FIGURE OUT

WHAT EXACTLY IS IT THAT PEOPLE

NEED TO KNOW?

WE DON'T FEEL THAT YOU NEED TO

BE GENETIC AND GENOMIC EXPERTS.

WHAT IS IT YOU NEED TO KNOW TO

BE ABLE TO EFFECTIVELY TEACH

YOUR STUDENTS?

WE DID ASK YOU WHAT WAS IT THAT

YOU HAD DONE SO FAR, AND

INFORMAL CHATS AND DISCUSSIONS

SEEM TO BE THE MOST PREDOMINANT

THING.

A NUMBER OF PEOPLE HAVEN'T DONE

ANYTHING.

AND WE ARE DELIGHTED WITH THAT

BECAUSE THAT'S ONE OF THE

STRATEGIES THAT WE ARE REALLY

INTERESTED IN GIVING YOU IDEAS

AND RESOURCES AND MATERIALS AND

SUPPORT THROUGHOUT THE YEAR OF

THINGS YOU COULD DO.

SO WE ARE PLEASED THAT OUR

APPLICATION PROCESS WORKED AND

WE GOT A GOOD GROUP OF PEOPLE

THAT HAVEN'T DONE EVERYTHING

THEY NEEDED TO DO.

SO WHAT ARE THE EXPECTATIONS?

JEAN JENKINS WILL COVER ALL THAT

IN FAR MORE DETAIL AS WE GO

THROUGHOUT THE DAY AND TOWARDS

THE END OF THE DAY.

BUT EULJUST GIVE YOU A FRAMEWORK

OF WHAT WE ARE EXPECTING FROM

YOU OVER THE NEXT YEAR.

THIS IS A YEAR-LONG COMMITMENT.

WE WILL HAVE PERIODS IN WHICH WE

WILL BE DOING SOME SURVEY WORK

AND TRYING TO KEEP THEM AS SHORT

AS POSSIBLE USING THE SAME

ONLINE SURVEY METHODOLOGY TO

GAIN SOME INFORMATION ABOUT WHAT

KINDS OF THINGS WE CAN BEST DO

TO HELP YOU.

WE WILL HAVE CONFERENCE CALLS

AND WE WILL RELY YOU ON TO GUIDE

THE STRUCTURE OF THOSE.

WE WILL DO SOME OF THAT THROUGH

ONLINE TECHNOLOGY WHERE YOU CAN

LOG IN AND BE ABLE TO SEE

DOCUMENTS OR RESOURCES OR

ANYTHING THAT WE DECIDE TO USE

THOSE CONFERENCE CALLS FOR.

WE WILL BE ASKING YOU TO SUBMIT

BRIEF QUARTERLY REPORTS OF WHAT

KINDS OF THINGS YOU HAVE DONE

AND WE WANT TO BE ABLE TO SEE

WHETHER THIS IS EFFECTIVE.

IF IT ISN'T EFFECTIVE, THERE IS

NO REASON TO CONTINUE IT.

IF IT IS SOMETHING THAT IS

WORKING AND THE SCHOOLS HAVE

FOUND IT VALUABLE AND YOUR

COLLEAGUES FOUND IT VALUABLE,

AND HELPFUL, THEN IT'S SOMETHING

WE WOULD LIKE TO POTENTIALLY

OBTAIN MORE FUNDS TO GET.

AND THEN AT THE END, WE WILL

HAVE ANOTHER MEETING LIKE THIS,

WHICH WILL ACTUALLY BE LESS OF

US TALKING AT YOU AND MORE OF

YOU TALKING AT US.

NEXT YEAR, SEPTEMBER OF 2010.

AND THEN WE WILL SORT OF WRAP UP

WITH ANOTHER SURVEY.

THE KINDS OF THINGS WE ARE

LOOKING AT, FROM YOU ARE THINGS
LIKE REALLY TAKING THE TIME TO
EVALUATE YOUR CURRICULUM TO
SHARE YOUR EXPERTISE WITH YOUR
COLLEAGUES AT THE TABLE, AND
BEGIN TO INTERFACE WITH SOME OF
OUR FACULTY EXEMPLARS AS PEOPLE
WHO HAVE DONE THIS, SOME OF WHOM
ARE HERE AND IN ADDITION WE ARE
WORKING ON SETTING UP ADDITIONAL
RESOURCES OF PEOPLE WHO YOU CAN
ENGAGE WITH.
WE WANT YOU TO SHARE THE THINGS
THAT YOU HAVE DONE, SHARE
RESOURCES YOU HAVE BY NO MEANS
DO WE HAVE ALL OF THE RESOURCES
OR ANSWERS HERE.
WE ARE EXPECTING EVERYONE TO BE
ABLE TO CONTRIBUTE TO THIS.
AND TO ALSO PROVIDE US WITH
INPUT ABOUT OPPORTUNITIES THAT
WE HAVEN'T CONSIDERED OF THINGS
THAT WOULD BE USEFUL TO YOU TO
MOVE THINGS FORWARD.
SO, WHERE ARE ALL OF YOU IN

TERMS OF YOUR KNOWLEDGE?

I CERTAINLY HAD A FEW E-MAILS

FROM SOME PEOPLE EXPRESSING A

LITTLE BIT OF CONCERN ABOUT THIS

AND I THINK WHERE WE ALL

EXPECTED, THAT PEOPLE ARE EITHER

IN THE LOW TO MODERATE CATEGORY

OF HOW MUCH THEY KNOW ABOUT

GENETICS AND GENOMICS.

SOME PEOPLE ARE SAYING, NOT VERY

MUCH AT ALL AND THERE ARE A FEW

PEOPLE SAYING THEY HAVE QUITE A

BIT OF KNOWLEDGE.

SO I THINK THE MAJORITY OF

PEOPLE EXPECTED NOT TO KNOW

EVERYTHING.

FEELING THEY HAVE A LITTLE BIT

OF A HAND BUT NOT ENOUGH.

AND THE ONLY THING I WOULD

CHALLENGE YOU TO SAY IS THAT I

CERTAINLY WHEN I STARTED IN

GENETICS, REMEMBERED THROUGH THE

COB WEBS IN NYE BRAIN, SOMETHING

ABOUT GREG OR MENDEL AND HIS

PEAS.

BUT I WOULD CHALLENGE YOU TO

THINK ABOUT THE FACT THAT YOU

PROBABLY ARE EITHER NO MORE THAN

YOU THINK YOU DO OR B, TEACHING

MORE THAN YOU THINK YOU ARE.

BECAUSE I HAVE ACTUALLY NEVER

MET A NURSE WHO DOESN'T

UNDERSTAND SICKEL CELL AND

RECESSIVE TRANSMISSION.

AND THAT IS GENETICS.

YOU MAY NOT THINK OF IT AS

GENETICS WHEN YOU'RE EVALUATING

YOUR CURRICULUM.

BUT IN ACTUAL FACT, IT IS.

AND SO WE WANT YOU TO BEGIN TO

THINK ABOUT WHAT ARE THINGS THAT

YOU MAY BE DOING THAT ARE

ACTUALLY TEACHING SOME OF THIS

MATERIAL THAT YOU MAY NOT

APPRECIATE?

AND WHAT IS IT DO YOU KNOW?

YOU PROBABLY KNOW MORE THAN YOU

THINK YOU DO.

AND SO, JUST LIKE YOU TO THINK

ABOUT THAT AS YOU GO THROUGH THE

DAY.

SO WHAT ARE WE GOING TO DO

TODAY?

WE ARE NOT GOING TO BE ABLE TO

GIVE YOU GENETICS 101 IN ONE

DAY.

THAT'S NOT POSSIBLE AND THAT IS

NOT OUR INTENT.

OUR INTENT IS TO SET A PLATFORM

FOR WORK THAT WE ARE GOING TO

CONTINUE THROUGHOUT THE YEAR.

WE WILL GIVE YOU AN OVERVIEW OF

SOME OF WHAT IS GOING TO IN

GENETICS AND GENOMICS THAT HAS

CLINICAL RELEVANCE AND ACTING

DIRECTOR OF THE NATIONAL HUMAN

GENOME RESEARCH INSTITUTE IS

DOING THAT LECTURE FOR US.

DR. GUTTMACHER, THAT IS I

TESTAMENT TO HOW IMPORTANT IT IS

THAT THE DIRECTOR OF THE GENOME

INSTITUTE WOULD SPEAK TO THIS

FORUM ON HOW IMPORTANT IT IS FOR

EDUCATORS TO TRANSLATE THIS TO

THEIR STUDENTS AND MOVE THIS

FORWARD.

WE WILL BE TALKING A LITTLE BIT

ABOUT THE COMPETENCY, WHICH

YOU-ALL RECEIVED A COPY OF WITH

YOUR SYLLABUS WHEN YOU CHECKED

IN THIS MORNING.

IF YOU HAVEN'T, THERE ARE MORE

COPIES IN THE BACK WITH EILEENE.

AND WE'LL TALK A LITTLE BIT

ABOUT THE BACHELORIAT

ESSENTIALS, SOME OF THE CONTENT

THAT WAS INTEGRATED INTO THAT

CAME FROM THE COMPETENCIES.

WE HAVE WONDERFUL EXPERTS WHO

ARE GOING TO TALK TO YOU ABOUT

STRATEGIES TO EVALUATE YOUR

CURRICULUM AND MODELS FOR

CURRICULUM INTEGRATION.

WHAT WORKS FOR ONE SCHOOL IS NOT

GOING TO WORK FOR OTHERS AND TO

GIVE YOU A FLAVOR OF THAT, WE

HAVE PEOPLE SITTING AT THE TABLE

WHO GRADUATE 10 ENTRY-LEVEL

NURSING STUDENTS PER YEAR AND

SCHOOLS AT THE TABLE THAT

GRADUATE MORE THAN 300 NURSING
STUDENTS PER YEAR AT THE
ENTRY-LEVEL.
SO WE HAVE A VAST ARRAY OF
DIFFERENT SCHOOLS REPRESENTED
HERE AND SO THERE NEEDS TO BE A
VAST ARRAY OF DIFFERENT WAYS TO
APPROACH THIS.
AND THEN WE WILL SPEND QUITE A
BIT OF TIME SHOWING YOU AND
TALKING TO YOU ABOUT RESOURCES.
IN ADDITION THERE ARE A FEW
TECHS, NOT ALL, TO JUST GIVE YOU
AN IDEA OF SOME OF THE BOOKS AND
RESOURCES THAT ARE AVAILABLE AND
IN THE BACK OF YOUR COMPETENCY
BOOKLET IS A MORE COMPREHENSIVE
RESOURCE LIST AND WE'LL BE
REVIEWING MORE RESOURCES LATER
TODAY.
AND OUR GOAL IS TO START TO
ESTABLISH THIS NETWORK OF
FACULTY CHAMPIONS FROM THOSE OF
YOU WHO ARE SITTING AT THE
TABLE.

SO WE HAVE QUESTIONS ABOUT WHAT

WE ARE GOING TO TRY TO DO TODAY?

IS IT WHAT YOU THOUGHT YOU WERE

SIGNING ON TO?

HOPEFULLY ALL THE LITERATURE WE

SENT YOU IS CLEAR.

BUT THAT'S ALSO WHY WE ASK FOR A

DEAN OR LETTER OF SUPPORT FROM

YOUR SCHOOL OF NURSING.

BECAUSE IT'S A LITTLE ABOVE AND

BEYOND WHAT YOUR NORMALLY DOING

PERHAPS IN YOUR SCHOOL OF

NURSING.

SO WE APPRECIATE THAT YOUR

SCHOOLS ARE LOG COMMIT THE TIME

AND ENERGY TO ALLOW YOU TO BE

PART OF THIS.

SO THANK YOU.

AND WE WILL HAVE SOME GUESTS

COMING IN PERIODICALLY TODAY.

WE PUT THE SPEAKERS IN THE

PEANUT GALLERY FOR THE TIME

BEING.

AND YOU'LL MEET THEM THROUGH OUR

INTRODUCTIONS THROUGHOUT THE

DAY.

BUT THEN THERE WILL BE A FEW

GUESTS THAT WILL BE COMING IN

PERIODICALLY FROM THE NATIONAL

INSTITUTE OF NURSING RESEARCH,

AACM AND HRSA.

THERE MIGHT BE A FEW FACES

APPEARING.

THANK YOU.

>> AND WE HOPEFULLY HAVE BUILT

IN TIME FOR YOU TO MEET SOME OF

THOSE PEOPLE AND WHAT KIND OF

WORK THEY ARE DOING.

LASTLY, I'D LIKE TO JUST MENTION

THIS MEETING IS OR HAS GOTTEN

SIGNIFICANT AMOUNT OF FUNDING

THROUGH 3 PLACES.

ONE IS THE NATIONAL HUMAN GENOME

RESEARCH INSTITUTE.

THE OTHER IS THE HEALTH

RESOURCES ADMINISTRATION IN THE

DIVISION OF NURSING, HRSA.

AND THEN LASTLY, FROM THE

NATIONAL CANCER INSTITUTE, WHICH

IS HOSTING THE WEBINAR SO THE

PEOPLE WHO ARE OUT IN THE
ELECTRONIC COMMUNITY WERE ABLE
TO JOIN US AND THE WEBINAR WILL
BE AVAILABLE POSTED ONLINE
THROUGH THE GENOME INSTITUTE
AFTER TODAY.
AND WE WILL OF COURSE LET PEOPLE
KNOW THAT THERE MAY BE SPECIFIC
LECTURES WITHIN THE WEBINAR THAT
YOU WANT TO SHARE WITH YOUR
COLLEAGUES IN YOUR SCHOOL AND WE
WILL BE ABLE TO HAVE THAT
AVAILABLE TO PEOPLE.
SO WE WOULD LIKE TO HAVE ME STOP
TALKING AND HEAR A LITTLE BIT
MORE ABOUT YOU AND YOUR SCHOOL
AND AS PART OF INTRODUCTIONS, WE
THAWED THOUGHT WE WOULD LIKE TO
YOU SHARE ONE THING YOU FEEL YOU
NEED THE MOST TO BE ABLE TO
INTEGRATE GENETICS AND GENOMICS
INTO YOUR SCHOOL'S NURSING
CURRICULUM.
WE WOULD LIKE TO GO AROUND THE
ROOM.

TURN ON AND OFF THE MICROPHONE.

SO LET'S START HERE.

>> MY NAME IS JANET WHITWORTH

AND I'M FROM GOLD-FARB SCHOOL OF

NURSING AT BARNES JEWISH COLLEGE

IN ST. LOUIS, MISSOURI.

ONE THING I THAT I NEED MOST TO

INTEGRATE GENETICS AND GENOMICS.

RIGHT NOW WE HAVE A LOT OF

FACULTY RESISTENCE TO THIS.

WHEN WE HAVE MEETINGS, AND WE

DISCUSS DEVELOPING A THREAD

WITHIN OUR CURRICULUM, EVERYBODY

SAYS, YES, I'M ONBOARD AND THEN

THEY GO BACK TO THEIR CLASSES

AND ADD NOTHING.

SO, I'M LOOKING FOR STRATEGIES

TO MAKE THAT EASIER FOR FACULTY.

>> HI, I'M TRISH BREN EN FROM

MERIT UNIVERSITY WHICH IS IN

OAKLAND, CALIFORNIA, OUTSIDE OF

SAN FRANCISCO.

AND WE HAVE 4 CAMPUSES

THROUGHOUT THE STATE.

SO WE GRADUATE QUITE A FEW

ENTRY-LEVEL NURSING STUDENTS.

I'M NEW TO THE FACULTY AND I

HAVE THE OPPORTUNITY TO PRESENT

A GENETICS LECTURE TO THE

FACULTY IN THE SPRING.

AND AGAIN, EVERYONE IS VERY

EXITED.

BUT HAS NO IDEA HOW RELEVANT IT

WOULD BE TO ANY OF THEIR

CLASSES.

SO I TOO AMLOOKING FOR SOME

STRATEGIES FROM THE EXPERTS FROM

PEOPLE WHO HAVE DONE THIS BEFORE

AND ALSO LOOKING TO HELP DEVELOP

RELATIONSHIPS WITH YOU BECAUSE I

THINK THIS YEAR IS GOING TO BE A

TRAJECTORY WHERE WE'LL LEARN

FROM EACH OTHER AND HOPEFULLY BE

SUCCESSFUL AS A GROUP.

>> I'M PAT REN REFROM INDIANA

UNIVERSITY SOUTH BEND.

-- PAT HENRY FROM INDIANA

UNIVERSITY.

I NEED A BUY IN FROM THE FACULTY

AND MORE KNOWLEDGE.

I'M HOPING TODAY TO FIND OUT HOW

MUCH IS ENOUGH.

I MEAN EXACTLY HOW FAR DO WE

NEED TO GO?

>> I'M LOU AN MARTIN FROM

LAWRENCE, CANSES, I TEACH FOR

BAKER UNIVERSITY SCHOOL OF

NURSING, A SMALL METHODIST

SCHOOL IN NORTHEASTERN KANSAS.

AND I TEACH PATHOPHYSIOLOGY.

SO I PROBABLY HAVE THE BULK

RIGHT NOW OF GENETICS IN OUR

CURRICULUM.

I KNOW AS IT COMES UP AND

ESPECIALLY CLINICALLY, THEY

ADDRESS THOSE ISSUES THAT WE ARE

IN THE MIDDLE OF CURRICULUM

REVISION BASED ON NEW

ESSENTIALS.

AND HAVE A VISIT IN 2010.

SO FACULTY ARE, YES, RESISTANT,

BUT NO, THEY HAVE TO.

AND SO THEY ARE WILLING.

BUT WE NEED SOME DIRECTION AND

LEADERSHIP SO THAT'S WHY I'M

HERE.

>> HELLO, MY NAME IS MARY FROM

THE UNIVERSITY OF MAINE SCHOOL

OF NURSING.

AND I WOULD -- DO I TEACH SOME

GENETICS IN MY ONCOLOGY CONTENT

BUT IT'S NOT A MAJOR THREAD IN

THE CURRICULUM AT THIS TIME.

BUT AS YOU SAID EARLIER, WE DO

TEACH SICKEL CELL AND MAYBE WE

TEACH MORE THAN WE REALLY THINK.

BUT WE HAD SOME MAJOR THREADS

LATELY SUCH AS PAIN MANAGEMENT,

TERMINAL ILLNESS, THIS IS JUST

ONE MORE THREAD AND I NEED TO

KNOW HOW TO INTEGRATE IT WITHOUT

MAKING EVERYONE DISCOURAGED

ABOUT DOING IT IN A HIGH-WORK

LOAD.

SO MAYBE MODERATE FORMULAS FOR

INTEGRATING THE CONTENT WOULD BE

GOOD.

>> I'M MARY DIAZ AND I'M FROM

THE UNIVERSITY OF TEXAS.

AND IN THE FACULTY WHERE I WORK,

THERE IS A LOT OF RESISTENCE TO

CHANGE, PERIOD.

SO, I BELIEVE THAT I NEED HELP

WITH STRATEGIES AND MAYBE A

MODEL THAT COULD BE SOMETHING

THAT COULD BE INTRODUCED SO I

WOULDN'T HAVE THE RESISTENCE

FROM THE FACULTY THAT SEEMS TO

EXIST.

JUST COMFORTABLE WHERE WE ARE.

SO THAT'S DIFFICULT TO GET

THINGS CHANGED.

>> GOOD MORNING.

I'M TARA O'BRIEN FROM THE

UNIVERSITY OF NORTH CAROLINA AT

CHARLOTTE.

I NEED STRATEGIES AND RESOURCES.

I FEEL THAT OUR FACULTY, THAT

THEY ARE EXITED ABOUT ME BEING

HERE TODAY AND HAVING THE

OPPORTUNITY TO LEARN ABOUT

GENETICS AND GENOMICS, BUT THEY

NEED ME TO BE THE RESOURCE FOR

THEM TO FIGURE OUT HOW THEY CAN

INTEGRATE THIS INFORMATION INTO

OUR CURRICULUM.

>> I'M ELIZABETH.

I GO BY LISA AND I'M NEW FACULTY

AT CLEMSON UNIVERSITY.

CLEMSON UNIVERSITY HAS TOTALLY

EMBRACED GENOMICS AND GENETICS

INTO THEIR CURRICULUM.

AND IN THE SPRING OF 2011, THIS

YEAR'S FRESHMAN CATALOG WILL BE

TAKING A MANDATORY HEALTH CARE

GENETICS COURSE.

SO I NEED HELP AND HOW WE ARE

GOING TO FORM THAT CLASS, WHAT

IS THE BEST METHOD FOR

DELIVERING THAT INFORMATION

WITHIN THIS CLASS?

AND TEXTBOOK EVALUATION AND HOW

WE ARE GOING TO WORK THAT IN.

>> GOOD MORNING.

I'M KIM FROM THE UNIVERSITY OF

SCRANTON IN PENNSYLVANIA.

-- WE ARE NOT ANYWHERE WHERE YOU

ARE.

I'M HERE JUST TO LEARN ABOUT HOW

TO INTEGRATE CURRICULUM CHANGES,

POSSIBLY MORE A MODEL

SUGGESTIONS WHERE WE CAN PUT IN

PIECES OF GENETICS OR GENOMICS.

AS PREVIOUSLY MENTIONED, I'M

SURE IT'S HAPPENING BUT I DON'T

KNOW THE AWARENESS IS ASSOCIATED

WITH THAT.

SO I THINK THAT'S MY PRIMARY

PIECE AT THIS POINT.

>> GOOD MORNING.

I'M DIANE FROM INDIANA

UNIVERSITY OF INDIANAPOLIS

CAMPUS AND WE CONSIST OF INDIANA

UNIVERSITY THE CORRIDOR SCHOOLS

ARE BLOOMINGTON, INDIANAPOLIS

AND COLUMBUS.

SO, OUR CHALLENGE WILL BE THINGS

THAT WHEN WE GO TO IMPLEMENT

GENETICS AND INTEGRATE IT INTO

THE CURRICULUM, WE MIGHT BE

LOOKED AT FROM THE OTHER SCHOOLS

AS WELL ON HOW WILL WE BE DOING

IT AND HOW WILL THEY DO IT?

WE WILL TRY TO SHARE SOME

RESOURCES.

THERE HAS BEEN TALK OF INITIAL
INTEGRATING IT BUT THEN
DEVELOPING A SEPARATE COURSE
THAT I WOULD DEVELOP, SOMETHING
THAT WOULD MAYBE BE LEVELED
ACROSS DEGREES FROM ONE CREDIT
HOUR TO MORE OF A GRADUATE.
SO TRYING TO FIGURE OUT THE
LEVELS, WHAT THE GENERALISTS
NEED, WHAT THE MASTERS NURSE
NEEDS.
IT'S SOMETHING THAT HOPEFULLY
CAN FIGURE OUT A LITTLE BIT
BETTER TO.
SO, WE HAVE A LOT OF MEANS.
>> I'M JENNY MA LOY, FACULTY IN
THE UNDERGRADUATE COLLEGE OF
NURSING AT UNIVERSITY OF SOUTH
FLORIDA.
AND I WAS -- I TEACH WOMEN'S
HEALTH AND SO I AM THE ONLY ONE
THAT LECTURES ON GENETICS RIGHT
NOW ON GENETICS AND GENOMICS.
I GOT INVITED TO ATTEND THE
NATIONAL FUNCTIONAL GENOMIC

SUMMIT LAST YEAR AND I'LL GO

BACK AGAIN THIS YEAR IN OCTOBER

IN SAN KEY.

AND SO THEREFORE I BECAME THE

EXPERT IN GENETICS/GENOMICS.

I'M ON THE CURRICULUM COMMITTEE

SO I WROTE A CURRICULUM, A

CONCEPT MAP TO HOW TO INTEGRATE

GENETICS INTO OUR CURRICULUM.

CURRENTLY I BELIEVE WE ARE

PROBABLY OVER THE TEXTBOOK.

I HAVE A NEED RESOURCES, CAN'T

REALLY FIND A NICE NURSING

TEXTBOOK.

I FOIND A MEDICAL TEXTBOOK.

THE REP SAID THAT'S WAY TOO HARD

FOR YOUR NURSING STUDENTS.

THAT'S FOR DOCTORS.

SO, I SAID HOW ABOUT YOU LET ME

LOOK AT IT ANY WAY?

AND I THINK MAYBE WE CAN MAYBE

WORK WITH THAT.

SO, WE NEED TEXTBOOKS.

I NEED TO GET THE FACULTY

ONBOARD.

WE HAVE, AS IN, I'M THE ONLY ONE
TALKING ABOUT IT, BUT WE DON'T
HAVE A -- WE HAVEN'T THOUGHT
ABOUT DOING A COURSE.
I KNOW THAT IS MAYBE ONE OF THE
OPTIONS BUT I THINK IT'S EASIER
SINCE MOST COLLEGES OF NURSING
ARE SO CONTENT HEAVY ANY WAY TO
THREAD IT THROUGH THE
CURRICULUM.
SO THAT'S WHAT I'M WORKING ON.
I HAVE WRITTEN AN OBJECTIVE FOR
ALL THE COURSES SO THAT WE CAN
MEET THE ESSENTIALS.
>> I'M KAREN WIT AND I AM FROM
GEORGE WASHINGTON UNIVERSITY.
AND WE ARE IN A PERFECT POSITION
RIGHT NOW TO INTEGRATE GENETICS
IN OUR CURRICULUM BECAUSE OUR
PROGRAM IS BRAND NEW BECAUSE WE
JUST STARTED OUR BSN PROGRAM
THIS FALL.
SO, I'M IN THE PROCESS OF
DEVELOPING MANY OF THE COURSES
THAT WILL BE COMING UP.

FORTUNATELY WE DIDN'T KNOW ABOUT

THIS MEETING UNTIL WE -- SOME OF

THE INFORMATION WOULD HAVE BEEN

APPLICABLE TO OUR FIRST COURSES

BEING TAUGHT NOW BUT SINCE THEN,

I HAVE BEEN TRYING TO GIVE SOME

OF THE FACULTY INFORMATION TO

PUT IN THEIR COURSES AS WE GO

ALONG.

I THINK WHAT I NEED THE MOST

RIGHT NOW IS RESOURCES TO MAKE

THE INFORMATION APPLICABLE TO

THE CLINICAL SETTINGS AND REALLY

PRACTICAL FOR THE FACULTY AND

THE STUDENTS TO UNDERSTAND THIS

MATERIAL AND HOW TO APPLY IT TO

THEIR PATIENT CARE.

AND THAT IS WHAT I'M LOOKING FOR

IN THIS AND THEN I ALSO WANT

RESOURCES TO BE ABLE TO TEACH

THE FACULTY TO BE MORE

KNOWLEDGEABLE IN THIS AREA.

>> I'M BARBARA OWENS.

>> UL THE MIC TOWARDS YOU.

>> --

[LOW AUDIO]

I'M SHORT.

I'M DOWN HERE.

AND WE ARE RULING OUT A NEW

CURRICULUM -- ROLLING OUT A NEW

CURRICULUM.

SO I AM -- I'M THE CHAIR OF THE

TRADITIONAL TRACK.

WE HAVE THE ACCELERATED TRACK,

WHICH I JUST FOUND OUT AS I WAS

WALKING OVER HERE THIS MORNING,

THEY EXPECT ME THERE AT 9:00

TOMORROW MORNING TO TELL THEM

THINGS.

I DON'T EVEN KNOW WHAT.

BUT I GUESS I'LL TRY TO GET HOME

AT 1:00 AND BE THERE WILL AT

9:00.

SO ANY WAY, WE HAVE USED THE

AACM ESSENTIALS AND THREADED

GENOMICS THROUGH THE CURRICULUM

BUT WE DEFINITELY ARE RE-- WE

ARE IN THE PHASE OF STRATEGIES

AND RESOURCES TO APPLY.

SO THANK YOU.

>> I'M CHRIS CURTIS FROM

INDIANA.

WE HAVE MINIMAL GENETIC AND

GENOMICS CONTENT.

EVERY INSTRUCTOR IS KIND OF

DOING THEIR OWN THING.

WE HAVE DONE NONE OF THOSE

THINGS IN TERMS OF TALKING ABOUT

THEM, HAVING WORKSHOPS NOTHING.

AND I HEARD SOME POSITIVE

COMMENTS FROM FACULTY, I'M SO

EXITED YOU'RE DOING THIS.

THAT'S A GREAT THING TO AD.

SO I DON'T ANTICIPATE A TON OF

RESISTENCE BUT WE NEED

KNOWLEDGE.

I THINK WE JUST DON'T REALLY

KNOW WHAT IS IMPORTANT TO

INCLUDE AND THE BEST WAYS TO DO

THAT.

>> I'M PHYLLIS FROM BLOOD FIELD

COLLEGE, BLOOMFIELD NEW JERSEY

AND I FEEL WE ARE ALMOST IN THE

SAME POSITION THAT CHRIS IS.

I THINK THAT THERE IS OPENNESS,

WILLINGNESS ON THE PART OF
FACULTY AND APPRECIATION OF THE
ESSENTIALS EXPECTATION AND VERY
LITTLE KNOWLEDGE AS TO WHAT
NEEDS TO GET INTO THE
CURRICULUM.
I THINK ONCE WE CAN GET A HANDLE
ON THE WHAT, WE CAN PROBABLY
FIGURE OUT THE HOW.
BUT THE WHAT TO ME IS SOMEWHAT
OF A MYSTERY.
SO WE NEED CLEAR OUTCOMES THAT
WE WILL ACHIEVE WITHIN THE
PROGRAM OR THE STUDENTS WILL
ACHIEVE WITHIN THE PROGRAM, AND
THEN I THINK RESOURCES MATERIALS
TO HELP US INTEGRATE INTO THE
CURRICULUM.
>> I'M KATHLEEN FROM UP STATE
MEDICAL UNIVERSITY NEW YORK,
WHICH IS IN THE MIDDLE OF
NEW YORK STATE BUT ANYTHING
NORTH OF US HAPPENS IN UPSTATE
NEW YORK.
BUT I'M RELATIVELY NEW TO THE

FACULTY.

I HAVE SOME EXPERIENCE IN

GENOMICS HAVING BEEN A MEDICAL

LIAISON FOR ONCOTYPE DX.

I THINK THE FACULTY IS HAVING

WILLING AND UNDERSTANDING THE

IMPORTANCE OF INTEGRATING THIS

INTO THE CURRICULUM.

BUT I THINK WHAT I NEED TO BRING

BACK IS A SENSE OF WHAT IN TERMS

OF THERE IS SO MUCH INFORMATION,

SO UNDERSTANDING WHAT ARE THE

KEY THINGS IN TERMS OF OUR

CURRICULUM AND THEN HOW TO DO

THAT.

I THINK IS IT INTEGRATING IT AS

THREADS OR SEPARATE COURSES OR

BOTH?

SO THAT'S WHAT THE STAFF IS

EAGER TO HAVE GUIDANCE ABOUT.

>> I'M THE TIME KEEPER SO I NEED

TO MOVE YOU QUICKER SO WE CAN

GET TO DR. GUT MACKER AND MAYBE

WE'LL HAVE THE OPPORTUNITY TO

TALK MORE AT THE BREAK PERHAPS.

>> I'M WENDY FROM CAPITOL

UNIVERSITY AT COLUMBUS, OHIO.

AND I'M NEW THIS YEAR SO I'M ON

THE STEEP END OF THE LEARNING

CURVE LEARNING WHAT THE FACULTY

RESOURCES AND EXPERTISE IS

THERE.

JUST A SENSE THAT THEY ARE

ACCEPTING OF THE FACT THAT IT'S

AN IMPORTANT SCHEME TO INCLUDE

IN THE CURRICULUM.

AND THEY ARE FINE WITH ME

TEACHING IT.

THAT'S ONE OF THE REASONS WHY

THEY PROBABLY HIRED ME, BUT I

THINK THERE IS MORE ANXIETY IF

THEY HAVE TO TEACH IT SO HELPING

FACULTY INTEGRATE IT INTO THEIR

COURSES AND ALSO IF IT TAKES

AWAY FROM WHAT THEY ARE

CURRENTLY TEACHING, THAT'S ALSO

ANXIETY.

SO KNOWING THAT ESSENTIALLY WHAT

WE NEED TO INCLUDE AND WHAT IS

MOST IMPORTANT IN INCREASING

FACULTY COMFORT LEVEL.

>> I'M THE DEAN FOR NURSING AT

COLORADO CHRISTIAN UNIVERSITY.

WE DON'T HAVE A PROGRAM YET.

I DON'T HAVE STUDENTS OR

FACULTY.

WE ARE GOING THROUGH THE

APPROVAL PROCESS.

WE DESIGNED OUR CURRICULUM WITH

OUR HEALTH CARE PARTNERS AND

THEIR EMPHASIS WAS KEEPING DATA

FROM DAY ONE.

SO OUR NEW CURRICULUM WILL HAVE

THAT AS A THREAD.

WE PLAN TO HAVE A COURSE IN

GENETICS AND GENOMICS FOR

PRENURSING STUDENTS AND ABLE TO

INTEGRATE IT.

SO I NEED RESOURCES AND

HOPEFULLY I WILL BE ABLE TO BE

CHAMPION FOR THE FACULTY I DON'T

HAVE YET.

>> MY NAME IS CARRY.

I'M WITH THE UNIVERSITY OF

ARIZONA IN TUCSON AND I'M MOST

INTERESTED IN STRATEGIES TO
INTEGRATE GENETICS INTO PROGRAM
THAT IS JUST JAM-PACKED WITH
CONTENT.
>> I'M SISTER KATHY BURDEN FROM
MARTY COLLEGE IN YANKTON, SOUTH
DAKOTA AND THAT IS EXACTLY WHAT
I WAS GOING TO SAY.
JUST STRATEGIES.
OUR CURRICULUM JUST SEEMS SO
BUSY ALREADY.
SO HOW CAN WE INTEGRATE THIS IN
AND STREAMLINE IT.
>> I'M KATHY AND I'M DIRECTOR OF
SPECIAL PROJECTS AT THE AMERICAN
ASSOCIATION OF ONCOLOGISTS OF
NURSING.
SO ONE OF MY SPECIAL PROJECTS IS
WORKING ON THE BACHELORIAT
ESSENTIALS.
I'M DELIGHTED TO LEARN ABOUT
WHAT YOU'RE GOING TO DO.
WE RECOGNIZE THERE IS A URGENT
NEED FOR FACULTY DEVELOPMENT
RELATED TO THIS AREA AND I HAVE

THE PLEASURE OF WORKING WITH

KATHY AND JEAN FOR 4 YEARS NOW.

SO WE HAD A GOOD TIME TRYING TO

GET TO THIS POINT AND I'M

LOOKING FORWARD TO TODAY.

>> WONDERFUL.

WELCOME AGAIN TO THE NATIONAL

INSTITUTES OF HEALTH AND WE HOPE

THIS WILL BE A PRODUCTIVE YEAR.

SO, I'LL JUST MAKE A COUPLE OF

COMMENTS FOR WEBINAR

PARTICIPANTS BECAUSE WE'LL GET

GOING WITH OUR PROGRAM.

AND THAT IS THAT WE WILL BE

PRIORITIZING QUESTIONS FROM THE

AUDIENCE FROM OUR FACULTY

CHAMPIONS IN THE ROOM BUT WE

WILL ACCEPT QUESTIONS FROM

WEBINAR PARTICIPANTS.

CHAT BOX WILL BE ON THE CORNER

OF YOUR SCREEN AND YOU NEED TO

TYPE IN YOUR QUESTION AND THEN

IF TIME ALLOWS, WE WILL BE ABLE

TO GIVE IT TO OUR SPEAKER.

SO 4 FIRST SPEAKER IS DR. ALAN

GUTTMACHER.

WE ARE DELIGHTED WITH HIS BUSY

SCHEDULE HE COULD FIND THE TIME

TO COME AND SPEAK TO YOU.

HE IS RECEIVED HIS AB DEGREE

FROM HARVARD COLLEGE AND HIS MD

FROM HARVARD MEDICAL SCHOOL.

DR. GUTTMACHER WAS THE DIRECTOR

OF THE VERMONT REGIONAL GENETICS

CENTER AT THE UNIVERSITY OF

VERMONT WHERE HE STARTED THEIR

CANCER GENETICS CANCER PROGRAM,

THEIR NEWBORN SCREENING PROGRAM

AND WORKED WITH THEIR INTENSIVE

CARE UNIT AND AN NIH SUPPORTED

INITIATIVE ON THEIR FIRST

STATE-WIDE INITIATIVE ON THE

ETHICAL, LEGAL AND SOCIAL

IMPLICATIONS OF GENETICS AND

GENOMICS.

DR. GUTTMACHER IS JOINED THE NIH

HERE AND WORKED WITH NATIONAL

HUMAN GENOME RESEARCH INSTITUTE

INITIALLY AS A SENIOR CLINICAL

VISOR TO THE DIRECTOR AND

CURRENTLY THE ACTING DIRECTOR OF

THE NATIONAL HUMAN GENOME

RESEARCH INSTITUTE.

WE ARE DELIGHTED THAT HE IS ABLE

TO JOIN US TODAY.

[APPLAUSE]

Y.

THANK YOU.

IT'S A REAL PLEASURE TO BE HERE

WITH YOU.

AND I'D LIKE -- I'D LIKE TO

WELCOME YOU TO THE N HIM L.IIH.

WE ARE SO HAPPY YOU ARE DOING

THIS THIS YEAR.

MY TALK WILL BE ABOUT IN SOME

WAYS, WE DID THE EASY STUFF.

THE SEQUENCE OF THE HUMAN

GENOME.

YOU HAVE THE HARD WORK, CHANGING

CURRICULUM, WHICH IS OBVIOUSLY

MUCH MORE DIFFICULT TO DO.

AND MUCH MORE COMPLEX,

ET CETERA.

IT'S VERY INTERESTING TO HEAR

THE SHORT IN TRODS AROUND THE

TABLE, YOU WHAT WANT TO GET OUT

OF HERE, SOME OF THE CHALLENGES

YOU FACE.

AND I DON'T THINK THEY ARE

SURPRISING.

I WAS SURPRISED BY SOME OF YOU

THAT SEEMED TO THINK THAT YOU

HAVE SOME FOLKS OUT THERE WHO

ARE GLAD YOU'RE HERE ET CETERA

BECAUSE ANY KIND OF CHANGE IN

CURRICULUM IS DIFFICULT.

THIS KIND OF CHANGE IS

PARTICULARLY DAUNTING BECAUSE I

THINK MAYBE IN RECENT YEARS WE

ENTERED IN THIS GENETICS,

GENOMICS STUFF, SOMEHOW IT'S

IMPORTANT.

WHICH DIFFERS FROM A FEW YEARS

AGO WHERE PEOPLE SAID, GO AWAY,

WHY ARE YOU BOTHERING US?

BUT MOST PEOPLE REALIZE, WHY IS

IT IMPORTANT?

HOW MIGHT I USE THIS IN

DAY-TO-DAY HEALTH CARE?

AND YOU MIGHT WANT TO TRY TO

GIVE YOU A LITTLE BIT OF WINDOW

INTOBA WHAT IS SOME OF THE

CUTTING EDGE RESEARCH THINGS

THAT GO ON IN GENETICS AND

GENOMICS AND PARTICULARLY WHAT

MIGHT THAT LOOK LIKE IN TERMS OF

HEALTH CARE?

WHERE ARE WE GOING?

HOW MIGHT WE USE IT IN A WAY TO

CHANGE THE WAY WE INTERACT WITH

PATIENTS?

SO I'M GOING TO CREATE AN

ARTIFICIAL CONSTRUCT.

I THINK AN IMPORTANT TEACHING

ONE.

THE DIFFERENCE BETWEEN WHAT I'M

GOING TO CALL GENETIC HEALTH

CARE AND GENOMIC HEALTH CARE.

I'M GOING TOUTE TERM, GENETICS

PRETTY CONSISTENTLY, I HOPE, AS

OPPOSED TO GENOMICS.

GENETICS ARE SINGLE GENES AND

WHAT THEY DO.

I'M A MEDICAL GENETICIST AS WELL

AS A PEDIATRICIAN.

WHAT I DID FOR MANY YEARS IN

TERMS OF SEEING PATIENTS WAS TO

SEE PEOPLE WITH SINGLE GENE

DISORDERS.

SO-CALLED MANDELIAN DISORDERS OF

WHOM TAU THERE ARE MANY SINCE

THIS IS THE NIH, DIBRING YOU

SOMETHING FROM THE LITERATURE.

THIS IS FROM MY YEARS WHEN I WAS

A CLINICIAN IN VERMONT.

YOU'LL SEE THE WEEKLY WORLD NEWS

SHOWS, KEYATURE CAPTURED LIVE IN

VERMONT.

HE IS SMART AS A WHIP SAYS

STUNNED SCIENTISTS.

THIS IS THE WAY MANY PEOPLE

THINK ABOUT GENETICS IN HEALTH

CARE.

THAT IT REFERS TO THE CHILD WITH

THE UNDIAGNOSED KIND OF

COMBINATION OF FUNNY PHYSICAL

FINDINGS AND YOU REFER THAT CARE

TO SOMEONE LIKE ME, A MEDICAL

GE¶ ASSIST, SHERLOCK HOLMES WITH

A STETHOSCOPE AND WE SEE THE

CHILD.

WE DO A FAMILY HISTORY AS WELL

AS A HISTORY, PHYSICAL AND THEN

SEND THE CHILD BACK TO THEIR

PRIMARY CARE PROVIDER WITH SOME

KIND OF TRIPLE EPI -- AND TELL

THEM ABOUT THE 4 OTHER CASES IN

THE WORLD'S LITERATURE AND

THAT'S BEEN THE USE OF GENETICS

AND HEALTH CARE TO A LOT OF

PEOPLE.

NOW OF COURSE FOR FAMILIES AND

INDIVIDUALS WHO HAVE A SINGLE

GENE DISORDER, THE GENETIC

NATURE OF THEIR HEALTH IS

INCREDIBLY IMPORTANT BUT THERE

AREN'T THAT MANY KIDS AND

FAMILIES OUT THERE.

GENOMIC HEALTH CARE IS VERY

DIFFERENT.

AND THAT IS WHY IT BECOMES SO

IMPORTANT TO GET IT INTO

CURRICULA BECAUSE GENOMICS

HEALTH CARE REFERS TO OUR ENTIRE

HUMAN GENOME.

ALL THOSE GENES WE HAVE, ALL
THOSE 21,000 GENES WE HAVE, HOW
THEY INTERACT TOGETHER AND VERY
IMPORTANTLY HOW THEY INTERACT
WITH NON-GENETIC FACTORS AND
ENVIRONMENTAL FACTORS TO
BASICALLY CREATE HEALTH AND
DISEASE.
IT'S MUCH MORE COMPLEX BUT IT
GETS TO THE CARE OF PATIENTS
EVERY DAY.
BECAUSE GENOMIC HEALTH CARE
TELLS US THINGS ABOUT THESE
DISORDERS.
THESE ARE THE 10 LEADING CAUSES
OF DEATH IN THE U.S. FOR 2004.
EVERY YEAR IT'S PRETTY MUCH THE
SAME.
NUMBER 10 SOMETIMES CHANGES BUT
IT'S PRETTY MUCH THE SAME.
AND THEN WHAT I WOULD SAY IS IN
COMMON FOR ALL OF THESE IS THAT
FOR YEARS WE HAVE KNOWN GENETIC
PLAYS A ROLE.
IF YOU HAVE A FAMILY HISTORY,

YOU HAVE AN INCREASED RISK OF

DEVELOPING THE DISORDER YOURSELF

BUT THAT WAS ABOUT ALL WE WERE

ABLE TO SAY.

IN RECENT YEARS, THAT HAS

CHANGED DRAMATICALLY.

WE ARE AN ERA WHERE WE ARE GOING

TO BE ABLE TO SAY JUST, GHEE, IF

THERE IS A FAMILY HISTORY OF

THIS, BE CONCERNED, TO BEGINNING

TO IDENTIFY THE SPECIFIC GENETIC

FACTOR THAT IS RESPONSIBLE FOR

THAT INCREASE RISK AND BASED

UPON THE MAKE INTERVENTION THAT

IS WILL CHANGE THE HEALTH AND

WELL-BEING OF OUR PATIENTS.

THE ONE ON THAT LIST THAT GETS A

QUESTION MARK RAN BEING LISTED

IS INJURY.

BECAUSE MANY PEOPLE SAY WHAT

DOES GENETICS HAVE TO DO WITH

INJURY?

OF COURSE INJURY IS NOT EYE

FLUKE THING AT ALL.

IT DOESN'T DESERVE A QUESTION

MARK.

MANY PEOPLE SAY TO YOU, THAT

CAN'T BE GENETIC.

I ARGUE THAT EVERY DISEASE,

GEICS PLAYS A ROLE.

IT DOESN'T PREDICT COMPLETELY

WHAT IS GOING TO HAPPEN BUT IT

PLAYS A ROLE.

EVEN WITH INJURY.

THE GENETIC FACTOR THAT HAS BEEN

IDENTIFIED A LONG TIME AGO AND

SOME SEEMED TO USE THIS SLIDE TO

MAKE THIS POINT, THIS MAY BE THE

FIRST TIME I MADE THIS POINT TO

THIS KIND OF CREW.

USUALLY WHAT I SAY IS, THERE HAS

BEEN A GENETIC FACTOR IDENTIFIED

A LONG TIME AGO THAT ON CURSORY

PHYSICAL EXAMINATION, YOU HAVE A

FAIR DEGREE OF CERTAINTY TO MAKE

THE DIAGNOSIS OF WHETHER SOMEONE

HAS THIS GENETIC VARIANT WHICH

MACES -- PLACES THEM AT A

GREATER RISK OF DYING FROM IT.

YOU CAN SAY, I'M GOING TO TELL

SEVERAL OF YOU IN THE ROOM YOU
HAVE THIS VARIANT AND I'M GOING
TO DO THAT WITHOUT A INFORMED
CONSENT.
AND THAT GENETIC VARIANT IS
KNOWN AS THE Y CHROMOSOME.
IN THIS ROOM, I WOULD APPEAR TO
BE THE ONLY ONE WHO IS AT
INCREASED RISK OF DYING OF
INJURY.
BECAUSE IF YOU HAVE THE Y
CHROMOSOME, IT DOES NOTHING MUCH
HELPFUL BUT IT MAKES YOU A MALE.
AND IT MAKES YOU AT MUCH HIGHER
RISK FOR DYING OF INJURY.
NOW PERHAPS THAT IS SOCIAL
CULTURAL.
I ASK YOU TO TELL ME IN SOME
CULTURE WHERE IT'S NOT THE
TRUTH.
SO IT GETS A QUESTION MARK.
BUT THERE ARE OTHER BIOLOGICAL
FACTS HAVING THE EXTRA Y
CHROMOSOME THAT PEOPLE DO
INCREASE THE RISK OF DEVELOPING

INJURY AND EVEN DIEING FROM IT.

THINGS THAT MAY HAVE SOMETHING

TO DO WITH BEHAVIORS AND OTHER

KINDS OF THINGS THAT CAN HAPPEN

WITH INJURY.

AGAIN IT MAY HAVE NOTHING TO DO

WITH ONE'S GENDER.

THE OTHER POINT TO TALK ABOUT

INJURY, WE THINK ABOUT GENETIC

FACTORS AS RISK FACTORS FOR

DEVELOPING A DISEASE AND THEY

PLAY A HUGE ROLE THERE.

DEPENDS UPON THE DISEASE HOW

LARGE BUT THEY PLAY A ROLE.

BUT THEY ALSO PLAY A VERY

IMPORTANT ROLE IN HOW WE REACT

TO THE DISEASE OR THE INJURY

ONCE WE DEVELOPED IT.

IN FACT, EVEN FOR INJURY, IF YOU

HAVE A COUPLE DIFFERENT PEOPLE

WITH THE SAME INJURY, THE

QUESTION OF WHO GOES ON TO

DEVELOP ARDS AND -- BECOMES

RESPIRATOR DEPENDENT FOR

INSTANCE, VERSUS SOMEBODY WHO

SEEMS UNSCATHE, THERE ARE LOTS

OF THINGS THAT CAN AFFECT THAT.

ALL KINDS OF THINGS.

ONE OF THE THEM AND THERE IS

MORE AND MORE TALK ABOUT THIS,

ONE OF THE THINGS THAT CAN

AFFECT IS YOUR INDIVIDUAL

GENETIC MAIN UP.

HOW YOU RESPOND TO INJURY - MAKE

UP -- THE DRUGS WE USE TO TREAT

DISEASES OR WHATEVER, GENETICS

HAS A LOT TO DO WITH DISEASE

RESPONSE AND AS WELL AS DISEASE

CAUSATION.

GENOMIC HEALTH CARE IS BUILT ON

THE FOUNDATION OF THE HUMAN

GENOME PROJECT.

SINCE I COME FROM THE NHGRI, I

HAVE TO USE THIS SLIDE.

IT'S IN MY CONTRACT.

THE HUMAN GENOME PROJECT WAS

YOUR TYPICAL INTERNATIONAL

GOVERNMENTAL PROJECT AND WAS

AHEAD OF SCHEDULE AND UNDER

BUDGET.

WHICH MEANS WE TAKE A LOT OF
PRIDE IN THOSE TWO FACTS AND
INTERESTINGLY FROM THE EARLY
DAYS OF THE GENOME PROJECT, WE
MARKED 3-5% OF SO-CALLED
ETHICAL, LEGAL AND SOCIAL
IMPLICATIONS OF GENOMICS.
THAT'S VERY IMPORTANT TO US AND
BASIC RESEARCH AND ALSO VERY
CLEARLY IMPORTANT TO HEALTH CARE
APPLICATIONS.
OUR INSTITUTE CONTINUES TO
DEVOTE 5% OF FUNDING TO LOOK AT
THESE KINDS OF THINGS.
THE HUMAN GENOME PROJECT DID
SOME OTHER THINGS, PRODUCED THE
HUMAN GENOME SEEQUENCE.
IT SPURRED NEW TECHNOLOGY AND I
THINK IMPORTANTLY NOW IT GIVES
US SOME NEW TOOLS TO BE ABLE TO
USE IN HEALTH CARE.
IT ALSO TOOK IN TERMS OF
RESEARCH, MADE IMPORTANT POINTS.
IT SHOWED THAT YOU COULD HAVE
LARGE TOP-DOWN MANAGED FINDS IN

THE SCIENCES AND THAT COULD BE

WORTHWHILE.

THERE WAS HISTORY IN THAT IN

AREAS OF SCIENCE THAT THERE

WASN'T MUCH OF A HISTORY IN

BIOMEDICAL SCIENCES.

THERE WASN'T ANY BIG PROJECTS.

IT WAS ABOUT HYPOTHESES GIVEN

SCIENCE.

NO HYPOTHESES THE HUMAN GENOME

PROJECT UNLESS WE HYPOTHESIZED

WE CAN SEQUENCE THE HUMAN

GENOME.

MOST PEOPLE IN FACT HAD DOUBTS

ABOUT THAT.

BUT I THINK WE HAVE ESTABLISHED

THAT WHILE STILL MUCH BIOLOGICAL

RESEARCH NEEDS TO BE HYPOTHESES

DRIVEN, SOME TIMES PROJECTS THAT

DEVELOP RESOURCES THAT CAN

EMPOWER HYPOTHESES-DRIVEN

RESOURCE PROJECTS ARE VERY

IMPORTANT.

THE OTHER THING WHICH THE GENOME

PROJECT DID AND I THINK AS

PEOPLE LOOK BACK 100-200 YEARS

FROM NOW, THIS IS GOING TO BE

THE LARGEST CONTRIBUTION T WON'T

BE WE SEQUENCE THE HUMAN GENOME.

IT INDIVIDUAL TAKEN LONGER OR

MORE DISJOINTED BUT IT WOULD

HAVE HAPPENED EVENTUALLY.

THE BIG THING WE HELPED DO WAS A

CARDINAL PRINCIPAL WAS THAT

EVERY 24 HOURS ALL OF THE DATA

IT WAS GENERATING WAS PUT UP ON

A CERTAIN AMOUNT OF COMPUTER

SERVER.

ANYBODY WHO HAD A COMPUTER AND

THE PAID THEIR BILL COULD

DOWNLOAD THAT DATA EVERY 24

HOURS.

AND THAT CONTINUED TO BE A

FUNDAMENTAL ASPECT OF THE FIELD

OF GENOMICS.

ED IDEA THAT DATA BELONGS TO

SOCIETY, PARTICULARLY DATA THAT

IS GENERATED BASED ON FEDERAL

FUNDING, BELONGS TO SOCIETY.

AND WHILE WE NEED TO COME UP

WITH GOOD WAYS TO RECOGNIZE THE
CONTRIBUTIONS OF THE PRINCIPLE
INVESTIGATORS, RESEARCHERS WHO
DEVELOPED THE DATA, IT DOESN'T
EXIST FOR THEIR USE T EXISTS FOR
SOCIETY'S USE AND THE MORE
PEOPLE WE CAN GET TO SEE THE
DATA AND USE IT, AS QUICKLY AS
POSSIBLE, THE QUICKER SCIENCE
WILL ADVANCE AND THEREFORE
HEALTH WILL.
SO IT'S INTERESTING AS A
CONTEXTURAL KIND OF THINGS.
SOME OF THE THINGS WE WILL BE
TALKING ABOUT TODAY, WILL SEEM
SPACE-AGE TOW SOME PEOPLE.
THEY'LL SAY, IT'S NEVER GOING TO
GET HERE.
IT'S AN INTERESTING CONTEXTURAL
THING TO REALIZE IT WAS ONLY 50
YEARS, THE LIFETIME OF US IN
THIS ROOM, THAT WE WENT FROM THE
FIRST DESCRIPTION OF THE DOUBLE
HELIX OF DNA IN 1953 TO THE
COMPLETE SEQUENCING OF THE HUMAN

GENOME IN 2003.

AND IF THERE IS ANYTHING WE KNOW

ABOUT SCIENCE, HEALTH CARE,

ET CETERA, IT IS THAT EACH YEAR

THEY MOVE MORE QUICKLY THAN THE

YEAR BEFORE.

SO SOME OF THE THINGS THAT WE

WILL TALK ABOUT THAT MIGHT SOUND

LIKE THE KIND OF FUTURISTIC, BUT

THERE MAY BE A LITTLE FUTURISTIC

BUT THEY ARE CLEARLY GOING TO BE

AROUND IN THE LIVES OF MANY OF

THE FOLKS IN THIS ROOM, CLEARLY

OF THE YOUNGER PATIENTS WE TAKE

CARE OF, THEY WILL BE.

I THINK THAT WHAT IS HAPPENING

WITH GENETIC AND GENOMIC

TECHNOLOGIES IS THE SAME THING

THAT HAPPENED WITH ANY KIND OF

NEW TECHNOLOGY, WENT BACK TO

RAILROADS AND INVENTION OF

TELEGRAPH AND OTHER KINDS OF

THINGS.

PEOPLE TENDED TO WAY OVER

ESTIMATE THE IMMEDIATE IMPACT

AND EXPECTANCYIENCE THE HUMAN

GENOMES, APRIL 14, 2003.

WHY WASN'T EVERYBODY HEALTHIER

ON APRIL 152003?

OVER ESTIMATED WHAT WAS GOING TO

HAPPEN IMMEDIATELY.

BUT HAVE UNDERESTIMATED AS

TRADITIONALLY THE CASE, THE

MIDDLE AND LONG-TERM IMPACT OF

THESE THINGS.

IT REAL DOES HE CHANGE THE WAY

THINGS THINK ABOUT THINGS.

SAME THING ABOUT COMPUTERS.

THIS IS IMPORTANT.

YOU'LL HEAR ABOUT PEOPLE TALK

ABOUT WE ARE IN THE POST-GENOME

ERA.

IF THERE IS ANYTHING WE KNOW

ABOUT GENOME ERA, WE WERE IN THE

PRE-GENOME ERA UNTIL APRIL 14,

2003 WHEN IT WAS ANNOUNCED IT

WAS IN SEQUENCE.

SOW NOW THIS ARGUES THE GENOME

ERA ITSELF WAS APRIL 14, 2003.

IF YOU WEREN'T PAYING ATTENTION

THAT DAY, YOU WERE TOO BUSY OR
SOMETHING, YOU MISSED A COMPLETE
ERA IN THE HISTORY OF HUMANITY.
AND YOU DID NOT -- WE ARE JUST
NOW AT THE BEGINNING OF THE
GENOME ERA AND THE STUDENTS THAT
YOU TEACH, THEY WILL IN SOME
WAYS BE THE FIRST GENERATION TO
REALLY FIGURE OUT THESE TOOLS TO
APPLY THESE TO HEALTH CARE.
SO ONE OF THE PICTURES I'M GOING
TO MAKE TO YOU AND IT'S PROBABLY
TRUE OF ANY KIND LEARNING.
YOU NEED TO GIVE STUDENTS YOU
WORK WITH A FRAMEWORK, BASIC
CONCEPTS, BUT YOU BASICALLY NEED
TO ENGAGE THEM TO REALLY WANT TO
BE LIFELONG LEARNERS.
IF THERE IS ANY AREA IN HEALTH
CARE, THAT'S GOING TO BE
NECESSARY, THIS IS IT.
BECAUSE I REALLY DO BELIEVE IT
WILL REVOLUTIONIZE HEALTH CARE
BUT THINK THAT WE DON'T KNOW
THAT MUCH YET.

WE KNOW SOME OF THE BASICS.

WE KNOW SOME OF THE FRAMEWORK.

BUT IF WE GO MUCH BEYOND THAT,

WE FOR GOING TO TEACH THINGS

THAT WILL BE OUT VOTED VERY

QUICKLY.

SO I THINK MOST OF WHAT YOU NEED

TO DO IS TO TEACH AGAIN SOME

BASIC ESSENTIALS AND THE

FRAMEWORK AND SOME REAL

APPRECIATION OF HOW FOLKS WILL

USE THIS IN THEIR CAREERS.

WE FACED A SORT OF CHALLENGE AS

AN INSTITUTE AND FOUNDED

BASICALLY TO LEAD THE FEDERAL

EFFORT AND SEE IF THE SEQUENCING

CAME NEAR TO AN END, WE HAD TO

THINK ABOUT, WHAT IS NEXT?

WHAT ARE YOU GOING TO DO NEXT?

WHICH CAUSED SOME PEOPLE SAID,

YOU WHAT SHOULD DO IS BE THE

FIRST FEDERAL BUREAUCRACY TO SAY

YOU WERE FOUNDD TO DO SO AND YOU

DID IT.

SO JUST HAVE A BIG PARTY.

GO HOME.

AND THAT'S IT IT.

WE HAD A BIG PARTY.

WE DECIDED NOT TO GO HOME.

IT WAS JUST AT THE BEGINNING AND

NOW IT GETS PRETTY EXCITING.

NOW WHAT WE STARTED THINKING

ABOUT, LET'S UNDERSTAND THE WAY

THE GENOME PLAYS A ROLE IN ALL

OF THESE DISEASES AND LOTS OF

OTHER ONES AS WELL.

WE THOUGHT ABOUT DOING THAT AND

THE FRIGHTENING PART WAS TO LOOK

AT THIS GRAPH.

AND THIS WAS DONE IN 2002 AT THE

SAME TIME THAT WE WERE COMING TO

THE END OF THE GENOME PROJECT.

AND THE GOOD NEWS IN THIS GRAPH

IS IF YOU LOOK AT THE PINK LINE,

BECAUSE YOU GET TO USE THE

NUMBERS OVER HERE, YOU CAN SEE

THAT THESE ARE SO-CALLED HUMAN

MANDELIAN SINGLE GENE DISORDERS.

SICKEL CELL DISEASE, CYSTIC

FIBROSIS, ET CETERA.

IT LOOKS PRETTY GOOD.

BY 2002, THERE WERE 1,700 SUCH

DISORDERS FOR WHICH THE GENE

INVOLVED HAD BEEN IDENTIFIED.

SO THAT SEEMS PRETTY GOOD.

IT'S NOT SO GOOD WHEN YOU

REALIZE THERE ARE 5-6,000 OF

THOSE.

SO EVEN THERE WE HASN'T FOUND

THE GENES INVOLVED IN MOST.

WHAT WAS REALLY DEPRESSING IS ON

THAT SLIDE ABOUT THE WAY IT

CAUSES MORTALITY IN THE USE OR

WORLDWIDE, THAT SINGLE GENE

DISORDERS ARE COMMON COMPLEX

DISORDERS WHERE GENES PLAY A

ROLE BUT MULTIPLE GENES ARE

INVOLVED, LOTS OF ENVIRONMENTAL

FACTORS.

FOR THOSE UNFORTUNATELY, HAVE TO

USE A SCALE OVER HERE IN THE

BLUE.

SO FOR THOSE, WE HAD ONLY 30 AND

OF COURSE THERE ARE SCORES OF

SUCH DISORDERS.

THERE WERE ONLY 30 FOR WHICH WE

KNEW GENES INVOLVED AND IT GETS

WORSE THAN THAT BECAUSE THAT IS

AN ALL-DIFFERENT SPECIES.

THAT INCLUDES MICE, RATS, APES,

WHATEVER YOU MIGHT LOOK AT.

FOR HUMANS IT WAS DOWN HERE IN

SINGLE FIGURES.

SO DESPITE THE FACT THAT THERE

WERE SCORES OF COMMON DISORDERS

THAT AFFECT PATIENTS AND US, WE

WEREN'T DOING VERY WELL.

THE REASON WAS, THE PEOPLE WERE

USING A CANDID GENE APPROACH.

WE TRY TO GUESS, I THINK MAYBE

THIS GENE IS INVOLVED IN THIS

DECEASED.

LET'S SEE WHETHER THE VARIANCE

OF THIS GENE IN PEOPLE HAVE THE

DISEASE VERSES THOSE WHO DON'T.

THE HUMAN GENOME IS MUCH MORE

COMPLEX IN OUR ABILITY TO FIGURE

IT OUT.

WE WEREN'T GETTING VERY FAR.

WE THOUGHT, LET'S USE AN

AGNOSTIC APPROACH.

WHAT ABOUT IF YOU HAD 1,000

PEOPLE WITH THE DISEASE AND

1,000 WITHOUT THE DISEASE, AND

SEE WHERE DOES THE GENOME VARY

BETWEEN THOSE WITH THE DISEASE

AND THOSE WITHOUT?

WE FOCUS ON THAT PART OF THE

GENOME THAT VARIES AND THERE WE

FIND THE GENES INVOLVED.

IT SEEMS LIKE A REASONABLE IDEA.

SO WE TOOK A PIECE OF PAPER OUT

AND PUT IT BACK.

IN 2002, JUST AS THE GENOME WAS

COMING TO PLAY, YOU KNOW, WE

COULD TAKE THESE 1,000 CASES,

1,000 CONTROLS, THE NIS GREAT AT

COLLECTING THESE CASES LIKE THE

FRAMING HARM HEART STUDIES.

THOSE ARE OUT THERE ALREADY.

YOU KNOW WHAT WE COULD DO IF WE

LOOKED AT THE WHOLE GENOME, WE

COULD SEQUENCE THE WHOLE THING

BUT IN 2002 IT COST TWO BILLION

DOLLARS TO SEQUENCE THE GENOME.

SO THAT WOULDN'T MAKE SENSE.

BUT WE THOUGHT THERE ARE THESE

THINGS CALLED SINGLE NUCLEOTIDE

POLYMORPHISMS, PLACES IN THE

GENOME WHERE THERE ARE

VARIATION.

10 MILLION OF THOSE ACROSS THE

HUMAN GENOME, PLACES WHERE THE

VARIATION OF WHETHER YOU HAVE AN

A, C, T OR G IN YOUR DNA AT THAT

SPECIFIC SITE.

SO WE COULD JUST LOOK AT THOSE

MAYBE TO SORT MAP THE GENOME AND

CONTRAST THOSE.

IF WE TOOK THOSE SNPS, 1,000

CASE, 1,000 CONTROLS.

GENOTYPE THE DNA OF ALL THOSE

SNPS, TOGETHER OUT IF ATS AN A

AND IN 2002 IT COST 50 CENTS FOR

ONE LACE IN THE GENOME.

SO IF YOU DOT MATH, IT'S $10

BILLION DOLLARS TO DO THAT

STUTTED ARE STUDY FOR ONE

DISEASE.

THE NIH BUDGET IN THOSE DAYS WAS

SOMEWHAT LIKE 24 BILLION

DOLLARS.

SO IT WAS PRETTY DIFFICULT FOR

US TO GO TO ALL THE OTHER

INSTITUTE AT THE NIH AND SAY,

GIVE US HALF OF YOUR BUDGET FOR

THIS YEAR.

EL.

WE'LL DO THIS STUDY AND THIS IS

OF INTEREST TO YOUR INSTITUTE.

WE THOUGHT, THAT'S NOT GOING TO

MAKE FRIENDS AND INFLUENCE

PEOPLE.

WE PUT THE ENVELOPE BACK IN THE

DESK.

WE DIDN'T TELL ANYBODY ABOUT IT.

THEN SOMETHING NICE HAPPENED,

THE INTERNATIONAL HAPMAP

PROJECT.

THIS IS A LARGE PROJECT THAT

AGAIN THE NATIONAL GENOME SEARCH

INSTITUTE LED TO LOOK AT

VARIATION IN THE GENOME T TOLD

US LOTS OF THINGS ABOUT

VARIATION.

ONE THING IT TOLD US WAS IT MADE
VERY CLEAR WHAT I'M TRYING TO
SAY, ALL OF US WHO LIVE IN
WASHINGTON, D.C. ALREADY KNEW,
WE HAD NOT EVOLVED VERY FAR AS A
SPECIES.
THAT WE ARE A VERY YOUNG
SPECIES.
AND BECAUSE WE ARE SO YOUNG AND
HAVEN'T EVOLVED VERY FAR, WE
TEND TO INHERIT OUR GENOME IN
VERY LARGE CHUNKS.
AMONG THOSE $10 MILLION YON
SNPS, SOME OF THEM, IF YOU COULD
TELL ME THERE IS AN A INSTEAD OF
A USUAL T, I COULD TALE YOU WITH
RATHER GOOD ACCURACY, THEIR
COMPLETE GENOME SEQUENCE.
SO THAT'S A NICE SHORTCUT THEN
WE COULD JUST LOOK AT 500,000 OF
THEM.
FOR SOME STUDIES MORE AND FOR
SOME LESS.
WE COULD DO 1,000 CASES AND IT'S
THE SAME THING.

BUT NOW INSTEAD OF 20 BILLION

GENOTYPES, WE ONLY HAVE TO DO

ONE BILLION.

SO NOW IT'S DOWN TO 5% OF WHERE

WE WERE BEFORE.

BUT THE OTHER NICE THING THAT

HAPPENED, BECAUSE OF NEW

TECHNOLOGY, THE PRICE OF DOING A

GEE NO TYPE IN THAT 5

YEARS -- GENOTYPE -- SOME PEOPLE

HEARD ME SAY THIS YESTERDAY.

IT'S THE ONLY EXPENSE OR MONEY

RELATED THINGS THAT DROPPED MORE

QUICKLY THIS DECADE THAN YOUR

IRA.

THE PRICE WENT FROM 50 CENTS IN

5 YEARS TO A 12 OF A PENNY.

AND IT'S CONTINUING TO GO DOWN.

I'LL STOP MAKING THIS SLIDE

AFTER WE KEEP KNOCKING THIS

DOWN.

SO IN ABOUT 2007, THE PRICE OF

DOING THIS GENOME-WIDE

ASSOCIATION STUDY, LOOKING

ACROSS THE WHOLE GENOME HAD GONE

FROM $10 BILLION DOLLARS TO

800,000 DOLLARS.

SO NOT SOMETHING YOU CAN DO OUT

OF YOUR PRETZEL MONEY OR

SOMETHING BUT SOMETHING FOR THE

NIH, WHICH BY THAT POINT HAD A

BUDGET EF 27 BILLION DOLLARS.

YOU COULD GO TO INSTITUTES AND

SAY, DO YOU WANT TO FIND THE

GENES INVOLVED IN

ARTHROSCLEROSIS OR AUTISM OR IN

YOUR COMMON DISEASE?

THAT'S A PRETTY WISE INVESTMENT

TO A LOT OF INSTITUTES.

AND WHAT HAPPENED, THIS IS THE

FIRST OF THE SO-CALLED

GENOME-WIDE ASSOCIATION STUDIES

THAT CAME OUT IN 2005 AND EVEN

BEFORE THE HAPMAP WAS FINISHED

BY USING HAPLOTYPE MAP, THE

HAPMAP, DATA.

IT'S A GROUP THAT LOOKED AT AGE

RELATED MACULAR DEGENERATION,

THE FIRST IN THE SEVERE VISION

LOSS IN THE U.S. AND HAVING DONE

THAT, THEY FOUND EVENTUALLY 3

DIFFERENT GENES THAT IN FACT ARE

VERY MUCH INVOLVED IN THE

CAUSATION OF AMD.

NOW AMD -- NOBODY THOUGHT IT WAS

GENETIC BEFORE.

YOU RAISED YOUR RISK BUT MOST

PEOPLE -- NOBODY SAID IT WAS A

GENETIC DISORDER BUT GENES PLAY

A LARGE ROLE BECAUSE TOGETHER

USING THE 3 MOST COMMON GENES

IT'S OVER 50%.

WE SEE IT ASVARIANTS IN THOSE

GENES.

COMMON AMONG THE POPULATION.

NOW A LOT OF PEOPLE SAY THAT'S

GREAT.

BUT THESE GENOME-WIDE

ASSOCIATION STUDIES ALLOW YOU TO

LOOK TO PEOPLE WITH COMMON

VARIANTS AND TELL THEM THEY HAVE

INCREASED RISK OF DEVELOPING A

DISORDER.

VERY POWERFUL PART OF HEALTH

CARE IN TERMS OF PREVENTION AND

THAT KIND OF THINGS.

EARLY DIAGNOSIS.

WHAT IS EVEN MORE POWERFUL, AND

THIS IS THE THING ABOUT GENETICS

AND GENOMICS AND A LOT OF PEOPLE

DON'T APPRECIATE FULLY.

AND THAT IS THAT THIS TALKS

ABOUT THE UNDERLYING BIOLOGY OF

THE DISEASE.

ALMOST NOBODY THOUGHT THAT AMD

WAS AN INFLAMMATORY PROCESS BUT

ALL 3 OF THESE GENES ARE

INVOLVED IN INFLAMMATORY

PATHWAYS.

SO THIS IS A HUGE HINT THAT THIS

IS AT ITS ROUTE, PARTLY

INFLAMMATORY PROCESS.

YOU WHAT MIGHT TRY TO DO TO

TREAT AMD IS USE SOMETHING

CALLED ANTI-INFLAMMATORYIES.

WE HAVE A BUNCH OF THOSE ARNOLD.

YOU COULD EVEN THINK ABOUT MAYBE

PREVENTION.

IF SOMEBODY HAS TWO VARIATIONS

IN THESE GENES THAT PUNCH THEM

AT INCREASED RISK FOR DEVELOPING

AMD, TELL THEM NOT TO SMOKE

BECAUSE IN FACT SMOKING IS FAR

AND AWAY THE LARGEST

ENVIRONMENTAL FACTOR IN AMD.

BUT YOU COULD BEGIN TO THINK

ABOUT, MAYBE AS WE START AN

ANTIINFLAMMATORY BEFORE YOU GOT

THE DISEASE, IT WOULD PREVENT IT

OR PUT IT OFF.

AND NOW TRIALS ARE ONGOING TO

SEE IF THAT APPROACH MIGHT BE

HELPFUL.

THIS IS -- FOR THOSE IN THE

REBINAR, ARE YOU HEARING ME

OKAY?

SO THIS IS A MAP OF ALL OF OUR

CHROMOSOMES HERE AND THIS IS

SHOWING THE FIRST FINDING IN

2005 FOR AMD.

BUT THINGS PROGRESS PRETTY

QUICKLY FROM THERE.

SO THIS IS 2006.

WE ADDED A FEW MORE.

FIRST QUARTER OF 2007.

BY THE MIDDLE OF 2007,

GENOME-WIDE ASSOCIATION STUDIES

FOUND ON VARIOUS CHROMOSOMES ALL

KINDS OF PRETTY DISEASES,

COLORS, CODED, WERE SHOWING UP

ON DIFFERENT CHROMOSOMES,

DIFFERENT GENES BEING EVOLVED.

BY THE END OF 2007, WE WERE

BEGINNING TO FIND GENES EVOLVED

IN LOTS OF DIFFERENT DISORDERS.

WE GO THROUGH 2008, SO BY THE

END OF 2008, WE HAD TO CHANGE

THE SLIDE WE WERE SHOWING THIS O

WE USED TO HAVE A DIFFERENT ONE.

WE RAN OUT OF ROOM ON THE SLIDE

SO WE COULDN'T USE THAT IS

ANYMORE.

THIS IS THE FIRST QUARTER OF

THIS YEAR.

AND THIS IS WHERE WE STOOD AT AS

OF A COUPLE OF MONTHS AGO.

SO FROM 2005 WHEN WE HAD 1 TO

THE MIDDLE OF 2009, WE NOW HAVE

439 -- BY NOW WE HAVE OVER 450,

PUBLISHED GENOME-WIDE

ASSOCIATION SITES WITH P VALUES

LESS THAN 5 TIMES 10 TO THE

MINUS 8.

PRETTY GOOD P VALUES.

THESE ARE THINGS WE BELIEVE ARE

REAL.

SO WE NOW 439 GENES, SOME OF

THEM REPEAT SO MAYBE NOT 439

GENES BUT VARIOUS GENES HAVE

BEEN IMPLICATED IN WHAT WE THINK

IS A BELIEVABLE WAY AS BEING

EVOLVED IN ONE OR MORE OF THESE

SPECIFIC DOZENS OF DISEASES

LISTED AT THE BOTTOM OF THE

SLIDE.

NOW IF YOU GO BACK TO THAT SLIDE

FROM BEFORE, YOU HAD TO PUT THIS

HUGE STUDY INCREASE AND NOW IT'S

GOT TO BE DOWN HERE IN TRIPLE

FIGURES.

IT'S UP THERE IN TERMS OF THE

NUMBER OF DISEASES FOR WHICH WE

KNOW GENES THAT ARE INVOLVED.

THE COMMON DISEASES.

HUGE CHANGE.

IS THAT MEANT ANYTHING DIFFERENT

FOR PATIENTS?

FOR A FEW IT ALREADY HAS.

BUT IT'S ONLY A FEW.

10 YEARS FROM NOW, IT'S GOING TO

HAVE HUGE IMPACT.

SO WHAT ELSE IS GOING ON IN

GENOMICS?

THIS IS THE JOURNAL OF NATURE.

IT HAS EVERY DECEMBER AT THE END

OF THE YEAR ISSUES, SPOTLIGHTS

WHAT DOES IT THINK THE BIG

ADVANCES IN SCIENCE WERE THAT

YEAR.

THIS IS NOT JUST BIOLOGICAL

SCIENCE.

THIS IS ABOUT SCIENCES IN

GENERAL.

THEY TALKED ABOUT PERSONAL

GENOMICS GOING MAINSTREAM AS

BEING THE MAJOR EVENT OF 2008.

AND THEY SITE VARIOUS KINDS OF

THINGS THAT INCLUDE THESE KINDS

OF THINGS.

IF YOU DON'T WANT TO READ

NATURE, READ "TIME" MAGAZINE

INSTEAD.

WHAT WAS THEIR NUMBER 1

INVENTION OF 2008?

THE DNA TEST.

SOME OF YOU KNOW THERE IS NOW

DIRECT TO CONSUMER TESTING.

YOU CAN -- THERE ARE VARIOUS

PURVEY ORS OF THIS.

FOR 399 THERE IS THEY WILL -- IF

YOU SEND IN A CHEEK SWAB, THEY

WILL ANALYZE THAT FOR AND YOU

YOU GET A REPORT BACK OF A WILL

THE OF THESE SINGLE NUCLEOTIDE

POLYMORPHISMS AND THE REPORTS

WILL TELL BUT YOUR HEALTH

STATUS.

LONG DISCUSSION ABOUT HOW

WORTHWHILE THE INFORMATION YOU

GET IS, BUT YOU'LL GET A FAIR

BIT OF INFORMATION.

MY FAVORITE OF THESE SERVICES IS

THIS ONE, DATING DNA.

WHERE WITH BY IF YOU SWAB THE

INSIDE OF YOUR CHEEK ASK SEND IT

OFF THEY PROMISE TO TELL YOU WHO

WOULD BE A GOOD MEAT FOR YOU.

I HAVEN'T CHECKED THIS SITE

OUT -- A GOOD MATE FOR YOU.

THE NIH BLOCKS US FROM GOING TO

THIS SITE SO THAT MEANS I CAN'T

DO IT FOR WORK AND AT HOME, MY

WIFE WON'T LET ME.

SO BETWEEN THE TWO I HAVE NO

ACCESS.

I CAN'T POTENTIAL YOU WHETHER

IT'S STILL UP THERE OR NOT.

THIS CLEARLY MOVES FROM THE AREA

OF BEYOND OF ANYTHING THAT HAS

ANY SCIENTIFIC BASIS BUT IF YOU

WANT TO SELL SNAKE OIL IN THE

WILD WEST, GO INTO DNA.

I WOULD DEFINITELY ADVISE TO YOU

DO THAT.

NOW PART OF YOUR JOB AND PART OF

YOUR STUDENT'S JOB IS GOING TO

BE TO HELP PATIENTS DISTINGUISH

FROM THE SNAKE OIL FROM THE

TESTING THAT ACTUALLY WILL BE

INCREDIBLY VALUABLE, AND

POTENTIALLY LIFE-SAVING FOR

THEM.

THAT IS AN IMPORTANT MISSION.

SO, IF YOU DON'T LIKE "TIME," OR

"NATURE," "SCIENCE," HAS TOP

BREAKTHROUGHS FOR 2008.

GENOMICS DIDN'T DO AS WELL AS IT

DID IN 2007 WHEN IT WAS THE

COVER STORY FOR THIS ISSUE.

BUT IN 2008 WE GOT TWO OUT OF

THE TOP 10.

NUMBER 10 WAS SEQUENCING BONANZA

THAT IS IMPROVEMENTS IN

SEQUENCING TECHNOLOGY TO BE ABLE

TO SEQUENCE GENOMES AND I'LL

TALK ABOUT THAT AND THEN THE

OTHER WAS CANCER GEE NETTICS.

CANCER GENOMICS, UNDERSTANDING

THE GENES INVOLVED IN CAIRNS AND

I'LL SAY SOMETHING ABOUT THAT

NUMBER 3 ON THEIR HIT PARADE.

THERE IS A PROJECT IN THE LAST

COUPLE OF YEARS BOTH OUR

INSTITUTE AND THE NATIONAL

CANCER INSTITUTE HERE AT THE NIH

HAVE CO-LED, THE CANCER GENOME

ATLAS.

IT WAS A PILOT PROJECT TO LOOK

AT 3 DIFFERENT TYPES OF TUMOR

AND TO REALLY BE ABLE TO FIGURE

OUT WHAT ARE THE GENETIC CHANGES

IN CANCER?

I MEAN, CANCER OF ALL THE

DISEASES WE DEAL WITH IS THE

MOST QUOTES UNQUOTE GENETIC

BECAUSE EVERY CANCER IS THE

GENETIC APPARATUS OF THE CELL

SOMEHOW GONE AWRY.

LET'S CATALOG THE VARIATIONS

THAT ARE RESPONSIBLE FOR CANCER

BECAUSE THEN WE BE ABLE TO

ATTACK CANCER IN A MUCH MORE

EFFECTIVE FASHION.

THE FIRST PUBLICATION THAT CAME

OUT OF THIS WILL BE CALLED TCGA,

CANCER GENOME ATLAS.

IT'S NOT A ACCIDENT.

GENETICS AND GENET 6 ARE A NERDY

BUNCH.

THIS IS A GREAT THING TO COME UP

WITH THESE 4 INITIALS, THE 4

BASES OF THE HUMAN GENOME TCGA.

I THINK THAT WAS FRANCIS

COLLEEN'S CONTRIBUTION.

LATE AT NIGHT FRANCIS DOES

THINGS LIKE THIS.

THE FIRST PUBLICATION WAS ABOUT

GENES INVOLVED IN GLIOBLAST

OHM - MULTIFORMULA.

WE KNOW IS A COMMON AND

DEVASTATING BRAIN CANCER TO ONE

THAT SENATOR KENNEDY RECENTLY

DIED FROM.

AND THIS HELPS THE BASE

BIOLOGY -- IT'S ALREADY

BEGINNING IN SOME CENTERS TO

CHANGE IN SOME WAYS THE PEOPLE

WHO PROVIDE CARE.

THIS HAS GONE FROM A PILOT -- I

MAY BE ANNOUNCING IT NOW.

I'M ANNOUNCING IT NOW.

IT'S GOING FROM A PILOT TO LOOK

ATH 20-25 TUMORS OVER THE NEXT

FEW YEARS.

WE WILL BE SEQUENCING BOTH THE

CANCER AND NORMAL TISSUE FROM A

COUPLE OF HUNDRED PEOPLE WITH

EACH OF THOSE 25 CANS TOURS GET

A GOOD CATALOG OF WHAT ARE THE

RARE VARIANTS IN CANCER A,

CANCER B, CANCER C.

AND EVENTUALLY WE HOPE TO GET TO

ALL HUMAN CANCERS.

SO WHAT SELLS IS GOING ON?

THIS THING ABOUT THE 1,000

DOLLAR GENOME.

WE ARE TALKING ABOUT THIS FOR

YEARS.

JUST A FEW YEARS AGO IT COST TWO

BILLION DOLLARS TO SEQUENCE A

GENOME.

BY 2014, PROBABLY SOONER THAN

THAT WE THINK, IT WILL COST

1,000 DOLLARS TO SEQUENCE A

GENOME.

IF YOU CAN SEQUENCE SOMEONE'S

GEE FOAM FOR 1,000 DOLLARS, AND

SINCE THE GENOME BESIDES HER

CANCER IS PRETTY STATIC, IT

DOESN'T CHANGE DURING SOMEONE'S

LIFETIME, IT WILL BE A SIMPLE

THING IN HEALTH CARE.

SEQUENCE EVERYONE'S GENOME.

HAVE THAT AS PART OF MAYBE WE'LL

HAVE ELECTRONIC HEALTH RECORDS.

IT WILL BE PART OF THEIR RECORD

AND AVAILABLE AS WE THEN

UNDERSTAND WITH ALL THE VARIANTS

MEAN, IT WILL BE JUST THERE EASY

TO PULL UP.

WHEN YOU THINK ABOUT THAT

SOMEBODY HAS THIS DIAGNOSIS AND

ANOTHER, LET'S LOOK WHAT THE

VARIANTS ARE.

IF THAT MAKES IT MORE LIKELY TO

HAVE As THAN Bs.

IN TERMS OF PICKING OUT DRUGS.

BECAUSE THE COST OF SEQUENCING

KEEPS GUESSING DOWN.

EVERYONE BRAGS ABOUT COMPUTERS

AND ARRHYTHMIC SCALE HERE KEEPS

GOING DOWN AND THE COST OF

SEQUENCING GENOME SYSTEMS GOING

DOWN WAY FASTER THAN WE THOUGHT.

TODAY IS ONE 14,000S OF WHAT WE

THOUGHT 14 YEARS AGO AND WE

THINK THAT PRICES WILL GO DOWN.

THAT GIVES US A CHAN TO THINK

ABOUT GENOMIC HEALTH CARE AND I

HAVE USED UP MOST OF MY TIME.

LET ME RUN THROUGH THIS QUICKLY.

SO HOW IS GENOMICS GOING TO

CHANGE HEALTH CARE?

THE FIRST THING IS WE TALKED

BEING AMD, THE IDEA OF CHANGE IN

OUR BASIC UNDERSTANDING OF THE

BIOLOGY OF DISEASES.

AND OF HEALTH.

AND TO TALK MORE AND MORE THE

DEFINING DISEASE NOT BY SYMPTOMS

BUT BY CAUSATION WHICH MAKES IT

MUCH EASIER.

IF I SAY EVERYBODY WHO WEISS HAS

ASTHMA AND I TRY TO TREAT THEM

ALL THE SAME WAY, IT WILL FAIL.

THESE ARE VERY DIFFERENT

DISEASES.

MAS JUST MEANS YOU'RE WEISING.

THAT'S THE END STAGE.

AUTO NOT THE DISEASE.

IT'S THE SYMPTOMS.

IF YOU THINK WHAT THE BIOLOGY IS

CAUSING THE DISEASE, IT MAKES IT

MORE AFFECT TESTIFY TREAT TO THE

AND IT'S HARD TO PREVENT A

SYMPTOM.

YOU NEED TO PREVENT THE DISEASE.

AND IT'S GOING TO DO OTHER KINDS

OF THINGS.

THE IDEA OF ONCE WE KNOW ABOUT

WHAT SOMEONE'S GENETIC DISEASES

ARE, WE MIGHT CHANGE SCREENING

FOR THEM.

FOR INSTANCE, HOW OFTEN SHOULD

SOMEONE HAVE COLONOSCOPIY?

WHAT AGE?

IT DEPENDS ON WHO THEY ARE

BIOLOGICAL.

ONE SIZE DOES NOT -- FIGURE OF

SPEECH FOR THAT.

ONE SIZE DOES NOT FIT ALL.

YOU NEED TO BEEN AT WHAT AGE,

WHO SHOULD HAVE IT.

THE SAME THING FOR MAMMOGRAPHY

AND OTHER SCREENINGS THAT ARE

EFFECTIVE TODAY BUT COULD BE

MORE EFFECTIVE WERE THEY

TARGETED TO INDIVIDUALS.

THE IDEA WITH DEALING WITH

PEOPLE'S LIFE SOMETIMES IN A

INDIVIDUALIZED WAY.

CERTAINY NOBODY SHOULD SMOKE.

BUT THAT IS EVEN MORE IMPORTANT

FOR SOME PEOPLE THAN OTHERS,

SPECIFIC PARTS OF DIET WILL BE

MORE IMPORTANT.

SOME PEOPLE IT DOESN'T MATTER

HOW MUCH CREAM THEY HAVE AND

DON'T EVER GET ARTHEROSCLEROTIC,

OTHER PEOPLE IT'S INCREDIBLY

IMPORTANT TO AVOID CREAM IN

THEIR DIET.

THE IDEA OF USING PRESYMPTOMATIC

MEDICAL THERAPIES.

WE TALKED ABOUT AMD.

SOMEBODY WHO IS NOT EVEN

SYMPTOMATIC YET, IF YOU HAVE A

BIOLOGICAL LIKELIHOOD OF

DEVELOPING DISEASE, TREAT IT

BEFORE IT STARTS.

MAYBE TREAT WITH NEW DRUGS THAT
ARE AIMED SIMPLY AT THAT ONE
GENETIC GLITCH THEY HAVE TO
PREVENT THAT FROM REALLY
DEMONSTRATING ITSELF.
THIS GETS A WHOLE IDEA OF
PHARMACOGENOMICS COMING UP WITH
NEW DRUG.
IT'S INTERESTING IF YOU LOOK AT
THE HUMAN HUMAN GENOME, OVER
20,000 GENES THAT WE HAVE, IF
YOU LOOK AT ALL THE GENES WE
HAVE, AND ALL THE PROTEINS THEY
MAKE, IF YOU TOOK ALL THE DRUGS
WE KNOW TODAY, OVER THE COUNTER,
UNDER THE COUNTER, STREET CORNER
DRUGS, ANY DRUG YOU WANT TO TALK
ABOUT IN THE WORLD, WHAT
PERCENTAGE OF THE GENOME DO YOU
THINK WE HAVE DRUGS TARGETED
AGAINST?
DO YOU THINK WE HAVE A DRUG
TARGETED AT ALL OF THE GENES AND
PROTEINS THEY MAKE OR 3/4 OR
WHATEVER?

HERE IS YOUR FIRST QUIZ OF THE

COURSE OR WHATEVER.

THINK ABOUT THAT.

WHAT IS THE ANSWER?

2.5%.

ONLY 500 OF OUR 20,000 GENES.

NOW MAYBE A LARGE PART OF OUR

GENOME IS CLINICAL AND NOT

DRUGGABLE.

WE WILL NEVER COME UP WITH GOOD

DRUGS TO TARGET THEM.

EVEN IF YOU SAY LET'S GET HALF

OF THE GENOME THAT'S NOT

DRUGGABLE.

THAT MEANS WE ONLY OCCUPIED 5%

OF THE BIOLOGICAL SPACE THAT WE

MIGHT OCCUPY WITH DRUGS.

SO THE IDEA TO COME UP WITH NEW

DRUGS, CHEM CALLING GENOMICS IS

DOING THAT.

THIS IS A -- CHEMICAL GENOMICS.

THIS IS FROM 2008 IN WHICH

CHEMICAL GENOMICS, THIS IDEA OF

LOOKING AT LARGE COLLECTIONS OF

HUNDREDS OF THOUSANDS OF SMALL

MOLECULES AND BEING ABLE TO
INTERROGATE THEM OVER A DAY OR
TWO.
THESE CANDIDATES BASICALLY
AGAINST SPECIFIC DISEASES WERE
USED TO BE ABLE TO COME UP WITH
NEW LEAD COMPOUNDS.
IN ANIMAL TESTING IT'S QUITE
PROMISING.
AND AGAIN, GENOMICS WAS A KEY TO
DOING THAT.
WE ARE STARTING NOW AT THE NIH
SOMETHING CALLED THE
THERAPEUTICS FOR RARE AND
NEGLECTED DISEASE PROGRAM.
CONGRESS IS GIVING US AN EXTRA
24 MILLION DOLLARS TO START A
PROGRAM TO USE THOSE KINDS OF
TECH NEGS NEW YORK'S TO COME UP
WITH NEW DRUGS PARTICULARLY FOR
RARE DISEASES.
-- TECHNIQUES.
TRADITIONAL PHARMACEUTICAL
COMPANIES HAVE NOT BEEN
INTERESTED IN DOING ALL THE

UPFRONT DEVELOPMENT.

SO WE HAVE UPFRONT BIOLOGICAL

DEPARTMENT THROUGH NIH CENTERS

AND THEN BE ABLE TO HAND THEM

OFF TO DRUG COMPANIES THAT CAN

THEN GO THROUGH THE PRODUCTION

PHASE.

LONG STORY BUT IMPORTANT PROJECT

YOU'LL HEAR MORE ABOUT.

THIS IS TO ADVERTISE.

I HAVE TO SAY FRANCISS NAME OFF

THIS.

ONE HE GOT APPOINTED TO

DIRECTOR, IT BECAME CONFLICT OF

INTEREST FOR HIM TO BE INVOLVED.

BUT AND I ANOTHER GUY WHO WORKS

AT THE NCGRI WILL BE EDIT A

SERIES OF ARTICLES THAT WILL

APPEAR IN THE NEW ENGLAND

JOURNAL STARTING IN JANUARY OR

FEBRUARY OF NEXT YEAR.

SO IT WILL BE 13-15 ARTICLES

ABOUT HOW CAN YOU USE GENOMICS

IN HEALTH CARE TODAY.

NO WHAT DOES IT MEAN 15 YEARS

FROM NOW BUT HOW DO YOU USE IT

TODAY?

YOU MIGHT FIND OUT HELP ALREADY.

THOSE WHO DON'T KNOW THIS, I

THINK I'M ALLOWED TO ADVERTISE

THAT BECAUSE I HAVE NO STEAK IN

IT AND DIDN'T EVEN WRITE THIS.

SOME OF THE PEOPLE HERE DID BUT

IT'S A VERY USEFUL RESOURCE

AGAIN PARTICULARLY SOMETHING YOU

WERE SAYING RESOURCES

PARTICULARLY AIMED AT NURSING.

THERE IS ONE FOR YOU.

IN TERMS OF THINKING ABOUT ROLES

FOR NURSES IN THE GENOME AIR

AYOU WILL BE ABLE TO DO A MUCH

BETTER JOB OF THIS THAN I CAN

PARTICULARLY AFTER A YEAR YOU

WILL BE.

YOU SHOULD BE THINKING ABOUT

THESE KINDS OF THINGS BECAUSE

THERE ARE MULTIPLE ROLES FOR

NURSES HERE.

AND I WOULD ARGUE AND I SUSPECT

YOU WOULD AGREE AND MAYBE ARGUE

MORE FORCELY THAN I WOULD THAT

THERE IS SOME OF THESE THIS

NURSES ARE PARTICULARLY AS A

PROFESSION, YOU THROW A BLANKET

OVER A WHOLE PROFESSION, ARE

PARTICULARLY WELL POSITIOND TO

DO.

A LOT OF THIS PLAYS ALONG WITH

SOME OF THE PRINCIPLES, SOME OF

THE TEACHING FOCUSES OF NURSING.

IN TERMS OF BEING PATIENT

ADVOCATES AND SPEAKING FOR

PATIENTS AND EDUCATING PATIENTS.

LOTS EVER LOTS OF RESEARCH.

WE NEED TO UNDERSTAND HOW TO USE

THIS STUFF WITHIN HEALTH CARE

SYSTEM SYSTEM.

IT'S JUST ANOTHER VERY LONG

LECTURE, IF WE ARE GOING TO USE

IT WELL.

THAT HAS TO BELIEVE THOUGHT OF

BY PEOPLE WHO ARE TAKING CARE OF

PATIENTS.

LET ME CLOSE BY GIVE YOUING WHAT

MIGHT SOUND LIKE A HYPOTHETICAL

STORY BUT IT'S PRETTY

REASONABLE.

IT'S THE STORY OF BETTY WHO

COMPLETES THE SURGEON GENERAL

FAMILY HISTORY TOOL.

IT'S A WEB-BASED RESOURCE FOR

PEOPLE COLLECTING FAMILY HISTORY

INFORMATION THAT WE THINK IS

PRETTY NICE, PRETTY EASY TO USE

FOR LAY PEOPLE.

PATIENTS CAN ENTER THEIR OWN

INFORMATION.

SO BETTY COMPLETES THIS AT THE

AGE OF 18.

SHE HAS 3 UNCLES WHO DIES OF

EARLY HEART DISEASE.

SHE CULTS HER HEALTH CARE TEAM

WHO SAYS BY 2000 TEAM, WE CAN

SEQUENCE YOUR GENOME BY A FEW

HUNDRED DOLLARS.

SHE SAYS, BUT, WHAT ABOUT

GENETIC DISCRIMINATION SOMETHING

IF I FIND OUT THESE VARIATIONS

MIGHT I LOSE MY JOB OR HEALTH

INSURESSURE DISCRIMINATE AGAINST

ME?

NO DON'T WORRY ABOUT THAT.

THERE IS FEDERAL LEGISLATION TO

PROTECT YOU ABOUT THAT.

WE HAVE PARTIAL PROTECTION

ALREADY.

SO THAT HAPPENS, BETTY HAD 5

GENETIC VARIANTS THAT HAVE SHOWN

INCREASED RISK OF HEART ATTACK.

SHE DESIGNS A PREVENTION BASED

ON DIET, EXERCISE AND SPECIFIC

MEDICATION TARGETED TO HER

GENETIC MAKE UP.

SHE DOES WELL UNTIL THE AGE OF

75 WHEN SHE DEVELOPS LEFT ARM

PAIN.

SHE ASSUMES IT'S FROM

GARDEPPING.

BUT HER PRIMARY CARE PROVIDER

KNOWING ABOUT HER GENOME

SEQUENCE AND FAMILY HISTORY OF

THESE 3 DEAD UNCLES, SAYS,

PRETTY TYPICAL PRESENTATION.

A WOMAN WITH ANG MI.

AND SO CORRECTLY DIAGNOSES THAT

SHE IS HAVING ACUTE MI.

LOOKS AT HERE SEQUENCE AND FINDS

OUT WHICH DRUGS SHE WILL

METABOLIZE IN THE WAY THAT WILL

BE MOST EFFECTIVE AND SHE

SURVIVES WELL INTO THE 22nd

SENT RE.

THAT'S WHAT YOUR STUDENTS WILL

BE DOING IF YOU DO A GOOD JOB IN

TEACHING THEM THEM.

IF YOU DON'T, HERE IS WHAT WHAT

HAPPENS TO BETTY.

SO BETTY NEVER HEARS ABOUT THE

SURGEON GENERAL'S FAMILY HISTORY

INITIATIVE.

HER PRIMARY CARE TEAM IS TOO

BUSY FILLING OUT INSURANCE FORMS

TO NEVER ASK ABOUT HER FAMILY

HISTORY.

NOBODY KNOWS ABOUT THE DEAD

UNCLES.

THEY ARE JUST ADD DEAD.

BETTY IS OFFERED GENOME

SEQUENCING BUT SHE LOST TO LONG

TERM CARE INSURANCE BECAUSE

THERE IS NO GOOD LEGISLATION TO

PREVENT THAT.

SHE SAYS, I DON'T HAVE ANY

PARTICULAR FAMILY HISTORY.

I'M NOT GOING TO BOTHER WITH

THIS.

I COULD LOSE MY LONG TERM CAROL

INSURANCE OR SOMETHING.

SO SHE EATS A TYPICALLY UNHEALY

DIEET AND DEVELOPS HYPERTENSION

AND GAINS WEIGHT.

SO THEN THEY NEVER HAVE BEEN

DONE BECAUSE PEOPLE NEVER GOT

INTERESTED IN THAT KIND OF

RESEARCH SO THEY ARE NOT

REIMBURSED AND SO NOBODY IS

USING THOSE SO INSTEAD BETTY

USES ANOTHER DRUG FOR

HYPERTENSION.

SHE DEVELOPS A HYPERSENSITIVE

REACTION AND QUICKLY AND WISELY

STOPS HER TREATMENT.

SO AFTER 10 YEARS OF

UNCONTROLLED HYPERTENSION, BETTY

DEVELOPS LEFT ARM PAIN AT 45 NOT

75.

HER PRIMARY CARE TEAM UNAWARE OF

HER HIGH RISK ASSUMES

MUSCULOSKELETAL AND PRESCRIBES

BED REST.

SO SHE GETS HER BED REST.

AND RETURN TO THE ER THE NEXT

MORNING IN CARDIOGENIC SHOCK.

THE ABSENCE OF GENOME SEQUENCE

PREVENTS ANYBODY FROM COMING UP

WITH A PARTICULARLY POSSIBLE

THERAPY SO SHE DIES IN THE

EMERGENCY ROOM.

SO BETTY IS IN YOUR HANDS.

IF YOU DO GOOD WORK THIS YEAR,

BETTY WILL LIVE WELL PASSED 100

AND BE FOREVER GRATEFUL IF NOT,

SHE IS DEAD IN THE ER AT THE

PHAGE OF 45.

THAT'S THE FUTURE.

WE -- AT THE AGE OF 45.

WE WELCOME YOUR HELPFULNESS TO

NAVIGATE THE FUTURE.

AND THE PARTNERSHIP THAT IS

GOING TO BE FORMED AROUND THIS

TABLE AND A LOT OF THE PEOPLE

AROUND THE PERIPHERY OF THE

TABLE, THAT'S WHAT THIS IS

ABOUT.

THE REAL PROMISE OF WHAT YOU'RE

DOING IS A LONGITUDINAL NATURE

UP AND WE ARE LOOKING FOR

DEVELOPING RELATIONSHIPS AMONG

THE PEOPLE HERE OF THE

INSTITUTIONS.

WE ARE INTERESTED AND OUR MAIN

DATE IS TO DO THINGS WITH

GENOMICS, INCLUDES APPLYING TO

HEALTH CARE.

LOT EVER OTHER INSTITUTES AND

NCI AND LOTS OF OTHERS ARE VERY

INTERESTED IN THAT AS WELL.

SO WE LOOK FORWARD TO WAYS WE

CAN PARTNER TOGETHER TO DO THAT.

SO I DIDN'T GO OVER TOO MUCH.

DO WE HAVE TIME FOR QUESTIONS?

OR DO WE NEED TO HOOK ME OFF THE

STAGE?

[APPLAUSE]

>> YOU'RE WELCOME.

>> SO OUR NEXT SPEAKER WE ARE

DELIGHTED THAT DR. JULIE WAS

ABLE TO JOIN US FROM CLEMSON

UNIVERSITY.

SHE RECEIVED HER BSN FROM THE

UNIVERSITY OF KANSAS.

HER MN FROM WICHITA STATE

UNIVERSITY.

A PHD IN MICROBIOLOGY FROM

CLEMSON UNIVERSITY, AND A POST

MASTERS CERTIFICATES FROM

CLEMSON UNIVERSITY.

DR. EAGERT HAS PREVIOUSLY TAUGHT

AT A NUMBER OF UNIVERSITIES

INCLUDING TEXAS WOMEN'S

UNIVERSITY, TULSA UNIVERSITY,

LORETTA HEIGHTS COLLEGE, DENVER

COLORADO, UNIVERSITY OF UTAH AND

CURRENTLY SHE IS AN ASSOCIATE

PROFESSOR AND HEALTH CARE

GENETICS DOCTORAL PROGRAM

COORDINATOR AT CLEMSON

UNIVERSITY.

QUITE A MOUTHFUL.

BUT THERE IS NO ONE WE COULD

THINK OF WHO IS BETTER ABLE TO

SPEAK TO YOU ON WHAT YOU REALLY

NEED TO KNOW ABOUT BASIC

GENETICS AND GENOMICS AS A

FACULTY MEMBER.

[APPLAUSE]

>> THANK YOU, KATHY.

I APPRECIATE THAT INTRODUCTION.

I TELL EVERYONE I'M NATIONALLY

KNOWN BECAUSE I LIVED

EVERYWHERE.

AND WORKED EVERYWHERE.

IT SAY PLEASURE AND AN HONOR TO

BE INVITED TO TALK TODAY.

AND I GUESS THE OTHER ISSUE THAT

I WAS CONCERNED ABOUT IS I HAVE

45 MINUTES TO TALK ABOUT WHAT WE

NEED TO KNOW ABOUT GENETICS AND

GENOMICS.

AND I THOUGHT, OH, MY GOODNESS.

SO THIS IS GOING TO BE JUST

SIMPLY, WHAT DO NURSING FACULTY

REALLY NEED TO KNOW?

AND SO THIS IS MY

INTERPRETATION.

SO THE FIRST THING I WANT TO SAY

IS, THE SLIDES ARE ADAPTED FOR

THE CANCER GENOMICS POWERPOINT

PRESENTATION ON THE NCI WEBSITE.

I DID THAT NOT BECAUSE I WAS

LAZY.

BUT BECAUSE I THOUGHT YOU KNOW,

THOSE ARE EXCELLENT SLIDES AND

THEY ARE ALSO AVAILABLE TO ALL

OF US FOR FREE AND THEY REALLY

ARE A GOOD OPTION FOR TEACHING

OUR STUDENTS.

AND SO THAT WAS ANOTHER REASON.

MY OBJECTIVES, IDENTIFIED BASIC

GENETIC AND GENOMIC CONCEPTS FOR

NURSING FACULTY REALLY NEED TO

KNOW.

DESCRIBE BASIC

PHARMACOGENETIC/GENOMIC CONCEPTS

FOR WHAT NURSING FACULTY REALLY

NEED TO KNOW AND THEN SUGGEST

APPLICATION AND BASIC CONCEPTS

IN CLASSROOM AND CLINICAL

SETTINGS BAYS ON THE ESSENTIALS

FOR CLINICAL PRACTICE.

AND LISTENING TO YOU-ALL,

EARLIER, THIS MORNING.

I AM GOING TO ADD A FEW THINGS

AS I TALK BUT STILL TRY AND MEET

MY 45 MINUTE DEADLINE.

SO I'LL BE LOOKING AT JEAN FOR

THE RED FLAG.

OKAY.

SO FIRST OF ALL, IT IS IMPORTANT

TO BE ABLE AND SHARE WITH OUR

STUDENTS EXACTLY WHAT IS THE

HUMAN GENOME AND WE KNOW THEY

ARE ALL GOING TOOON - WE KNOW

WHAT THAT IS.

I THINK IT IS IMPORTANT THAT WE

REVIEW WITH THEM VERY SIMPLY

JUST TALKING ABOUT THE HUMAN

CELLS, WHAT THE BASICS ARE IN

THE CELL, WAT RESPONSIBILITIES

OF DIFFERENT ORGANELLES ARE, THE

CHROMOSOMES IN THE NUCLEUS, HOME

CHROMOSOMES THERE ARE,

ET CETERA.

AND THEN AGAIN TO REINFORCE THAT

THE ORGANELLES ARE IN THE

CYTOMASM.

ANOTHER BASIC CONCEPT, BETWEEN

WE ALL KNOW, DNA IS FINDING AND

MAKING INSURANCE WE TALK ABOUT

PURINES AND HOW THEY LINE UP

TOGETHER SO THEY CAN INDEED FORM

THAT DOUBLE HELIX.

THE BASIC CONCEPT OF THE CENTRAL

DOGMA.

AND THAT IS SO IMPORTANT SO TA

STUDENTS RECOGNIZE, REMEMBER AND

UNDERSTAND THAT WE START WITH

DNA, MOVE TO MRNA, BUT FROM THE

MRNA WE ARE GOING TO HAVE

TRIPLETS WHICH GIVE US THE

MESSAGE FOR AMINO ACIDS, WHICH

ARE GOING TO GIVE US THE

PROTEINS THAT ARE SO IMPORTANT

AND GIVE US DIRECTION FOR

EVERYTHING THAT IS GOING TO

HAPPEN IN THE BODY.

AND SO, WHEN WE THINK ABOUT THAT

A LITTLE LATER, I'LL GIVE US

GUIDELINES FOR FRACTLY WHY WE

NEED TO KNOW THAT AND

INFORMATION.

AND THEN THE KARYOTYPE.

SPECIFICALLY HERE AGAIN, WE HAVE

THE 22 RIBOSOMES AND THE

23rd CHROMOSOMES WHICH ARE

THE SEX CHROMOSOMES.

WE KNOW, AND I ALWAYS LIKE TO

SHARE THIS WITH THE STUDENTS

BECAUSE THEY ALWAYS SEEM TO

THINK, AT A DON'T KNOW THIS

INFORMATION BUT WE KNOW

CHROMOSOME HAS A SHORT ARM AND A

LONG ARM.

AND THAT THIS MARRIES IN THE

MIDDLE.

WE KNOW THE SHORT ARM IS THE P

CHROMOSOME AND THE REASON FOR

THAT PROBABLY MANY OF US

REMEMBER IN THIS ROOM IS BECAUSE

IT'S PETITE.

AND I THOUGHT, WOW.

THEY WERE SO SMART TO USE P FOR

PETITE.

AND OBVIOUSLY IT'S A FRENCH WORD

SO WHAT DOES Q STAND FOR?

WHAT IS THE Q NAME FOR LONG IN

THE FRENCH LANGUAGE?

IT TURNS OUT IT'S NOT FOR

ANYTHING.

IT'S BECAUSE Q FOLLOWS P.

[LAUGHTER]

SO, I THINK AGAIN, THINGS LIKE

THAT ALSO HELP OUR STUDENTS

REMEMBER.

AND AS WE TALK ABOUT MYTOSIS AND

MYOSEIS LATER, WE'LL REINFORCE

THAT.

SO WHAT ARE THE IMPLICATIONS FOR

THIS INFORMATION?

SOME MIGHT BE FROM THE ESSENTIAL

9.

NOW ONE THING I WANT TO POINT

OUT IS THAT A LOT OF THINGS THAT

I'M SAYING ARE FROM THE

ESSENTIALS 7 AND 9 BUT IN MY

OPINION, PROBABLY LOT OF THIS

INFORMATION COULD GO INTO ALL OF

IT.

MY TASK WAS TO TALK ABOUT BASIC

CONCEPTS BUT YOU THINK ABOUT

SOCIETAL IMPLICATIONS, ETHICAL

IMPLICATIONS, COMMUNICATION,

THERE IS SO MUCH THERE THAT IS

NOT WHAT I'M SAYING, OR TALKING

ABOUT, BUT IT DOES HAVE

APPLICATIONS.

SO, COMMUNICATE EFFECTIVELY.

WE NEED TO BE ABLE TO

COMMUNICATE WITH OUR

PROFESSIONAL COLLEAGUES.

AND SO IT'S IMPORTANT THAT WE

HELP THE STUDENTS UNDERSTAND

WHAT IS THE CHROMOSOMAL GPS FOR

DISORDERS THAT WE TALK ABOUT IN

CLASS OR THAT WE FIND IN THE

CLINICAL SETTING?

SO ONE EXAMPLE EVERYONE KNOWS IS

THE BRCA1 GENE.

WE KNOW THAT IT'S ON THE

17th CHROMOSOME.

IT'S ON THE Q ARM SO THAT'S THE

LONG ARM AT POSITION 21.

SO IT HELPS AGAIN THE STUDENTS

BE ABLE TO START TALKING ABOUT

AND COMMUNICATING WHAT DOES ALL

THIS MEAN.

THE OTHER PLAIN AS IT MOVES OUT

FROM THE CHROMOSOME, EXCUSE

ME -- CENTER MERE.

SO YOU CAN SEE THE NUMBERS GET

LARGER THE FURTHER AWAY FROM THE

CENTER MERE.

SO WHAT ARE THE KEEPERS OF THE

CODE?

AGAIN, THIS IS AN NCI IS SLIDE.

IT'S REALLY PRETTY COLORFUL, IT

TALKS ABOUT THE GO PART, THE

PROMOTOR SITE.

THE BYE PRIME END MOVING DOWN TO

THE 3 PRIME END WHICH IS THE

STOP.

WE NOTICE THERE IS SLICE SITES,

AXONS AND EN TRONS AND I DON'T

KNOW ABOUT YOU-ALL BUT MY

STUDENTS ALWAYS HAVE TROUBLE

WITH -- IS IT AN EXON OR EN

TRON?

SO IN MY SIMPLE MIND, EXON IS A

GAS, MEANS GO.

SO OUR GENES NEED TO GO AND GIVE

US INFORMATION SO THAT WILL STAY

IN THE EN TRONS WILL LEAVE.

SO EXON IS GOING TO HELP US WITH

THE GENETIC MESSAGE.

SO, THEN THAT WILL GIVE US THE

MRNA.

WE'RE GOING TO HAVE NON-CODING

REGIONS.

THE IMPORTANCE WITH NON-CODING

REGIONS IS THAT SOME OF THOSE

WILL COME AND GO DEPENDING ON

WHICH PROTEIN WE WANT.

AND THAT'S ANOTHER PIECE OF

IMPORTANT INFORMATION TO SHARE

WITH OUR STUDENTS.

REMEMBER I TALKED ABOUT THE

NUCLEUS VERSES THE CYTOMASM.

AND THAT THE REASON THAT'S

IMPORTANT, WE REMEMBER THE

RIBOSE ARE IN THE CYTOPLASM.

SO OBVIOUSLY WE ARE GOING TO

HAVE THE DNA MESSAGE MOVING VIA

MRNA INTO THE CYTOPLASM.

WE SEE THE TRIPLETS AND LET ME

SEE IF I CAN -- WE SEE THIS

MESSAGE THAT WILL BECOME THE

TRIPLET CODE ONS AND THIS WILL

GIVE US THE AMINO ACID MESSAGE,

RED AS THE 3 TRIP LETS.

AND SO, THIS IS THE RNA

PROCESSING BEFORE TRANSLATION

AND AGAIN WE SEE THE DNA AXXON,

EN TRONS.

WE GET RID OF THE AXXONS AND

HAVE OUR TRANSLATION DOWN TO THE

PROTEIN.

SO HERE AGAIN IS OUR TRIPLET

CODE SPELLING FOR THE AMINO

ACID.

THE FIRST ONE, THE GO IS AUG.

IT ALWAYS SPELLS, GO.

IT ALSO SPELLS METHIONINE.

AND I DECIDED I LIKED THE DNA

ALPHABET BECAUSE IT HAS 3 LETTER

WORDS AND NOT 4 LETTER WORDS AND

SO THAT IS ANOTHER THING THAT IS

IMPORTANT TO HELP OUR STUDENTS

REMEMBER.

SO WE HAVE 3 LETTER WORDS THAT

IS A GO MESSAGE AND THEN

CONTINUE WITH OUR DIFFERENT

AMINO ACID TRIP LETS TO HELP US

GROW OUR PROTEIN AND THEN THE

STOP MESSAGE WILL BE THESE 3.

SO THEN WE MOVE ON.

AND THE THING THAT IS IMPORTANT

TO REMEMBER IS THAT MANY AMINO

ACIDS HAVE MANY SPELLINGS.

SOME HAVE ONE, AND HAVE MANY.

SO WHY IS THAT IMPORTANT?

OBVIOUSLY IF YOU HAVE THIS ONE

HAS THE START MESSAGE ALSO.

TYROSINE HAS TWO.

TRYPTOPHAN HAS ONE.

IF YOU MISS SPELL TRYPTOPHAN,

YOU'RE NOT GOING TO GET THE

CORRECT AMINO ACID.

THEREFORE THERE IS A HIGH

PROBABILITY WE'LL HAVE A

DYSFUNCTIONAL OR NONFUNCTIONAL

PROTEIN.

SO THESE ARE JUST EXAMPLES OF

SOME OF THE AMINO ACIDS AND WHY

WE NEED TO HAVE THE CORRECT

TRIPLET SPELLING.

THIS POSITION MEANS THAT IT'S

PRETTY EASILY EXCHANGED AND

STILL HAS NO PROBLEM AND YOU CAN

SEE HERE IS AN ADD 19 AND

CYTOSEEN.

THE THIRT POSITION DOESN'T

CREATE AS MANY PROBLEMS AS THE

FIRST AND SECOND.

OKAY.

SO THEN THAT MOVES US WHEN WE

THINK ABOUT THE DNA AND THE NINE

SITES.

IF WE HAVE ONE SINGLE

NUCLEOTIDE, IF WE HAVE ONE

CYTOZINE, OR ONE NUCLEOTIDE THAT

IS NOT CORRECT, THEN THAT IS

CALLED A SINGLE NUCLEOTIDE

BECAUSE IT'S ONLY ONE THAT HAS

BEEN CHANGED.

A SINGLE NUCLEOTIDE

POLYMORPHISM.

NOW IT TURNS OUT THAT THESE ARE

CONSIDERED FREQUENT MEANING THAT

THERE IS MORE THAN -- THEY OCCUR

MORE THAN 1% OF THE POPULATION.

THEY OCCUR IN MORE THAN ONE

PERCENT OF THE POPULATION.

SO, A SNP IS GOING TO BE

SOMETHING THAT OCCURS COMMONLY

IF YOU WILL.

A MUTATION OCCURS LESS COMMONLY.

SO LET'S TALK ABOUT THAT JUST A

LITTLE BIT MORE.

IF WE HAVE A SNP OR A MUTATION,

AGAIN, IT'S GOING TO BE ONE

NUCLEOTIDE, ONE LETTER.

SO IF OUR NORMAL PROTEIN GIVES

US THE MESSAGE THAT IS THE BIG

RED DOG RAN OUT, THAT'S OUR

NORMAL PROTEIN.

IF WE HAVE ONE LETTER CHANGE, A

SINGLE NUCLEOTIDE POLYMORPHISM,

IT COULD BE THAT IT GIVES US

A -- IN THIS SITUATION IT SAYS

THE BIG RAD DOG RAN OUT.

IT'S NOT A RED DOG.

BUT IT IS A RAD DOG.

AND WHILE IT IS TO THE THE SAME

MESSAGE, WE STILL GET WHAT IS

GOING TO BE HAPPENING.

THE DOG WILL BE RUNNING OUT:

IF WE HAVE LOTS OF LETTERS

DELATED, WE WILL GET A MUTATION.

WE'LL JUST GET THE BIG RED.

WE'LL HAVE A PROTEIN THAT WON'T

WORK.

WE'LL HAVE A DELETION.

SO WE LOSE ONE AND EVERYTHING

SHIFTS DOWN.

WHAT DOES THIS MEAN?

WHO KNOWS.

OR SHIFT INSERTION AND WE HAVE

IT GOING THE OTHER WAY AND

PEOPLE DON'T GONE AGAIN, WADOES

THAT MEAN?

IT'S EYE PROTEIN THAT IS NOT

WORKING.

OKAY.

SO WHEN WE THINK, ONCE AGAIN,

ABOUT POLYMORPHISM, I TOLD YOU

THAT POLYMORPHISMS OCCUR IN MORE

THAN 1% OF THE POPULATION.

SO YOU GUYS, IF YOU LOOK AROUND

THE ROOM, LOOK AT THE PERSON

NEXT TO YOU, WE KNOW THAT WE ARE

99.1% THE SAME.

19.1% THE SAME -- 99.1% THE

SAME.

SO THE THINGS THAT MAKE US

DIFFERENT ARE OUR POLYMORPHISM.

AND THOSE ARE VERY COMMON AND

MANY OF THEM.

AND MUTATIONS ARE CONSIDERED

VERY RARE.

SO, WHEN YOU THINK ABOUT AN

EXAMPLE TO HELP US COMMUNICATE

WITH OUR STUDENTS AND KATHI AND

I TALKED ABOUT THIS BEFORE.

WE BOTH CAME UP WITH THE SAME

EXAMPLE.

AND I HAVE NEVER HEARD HER AND

SHE'S NEVER HEARD ME TALK.

SO ANY WAY, THE BEST EXAMPLE FOR

ME WAS CAKE.

WE HAVE A CAKE RECIPE.

AND WE KNOW WHAT THE INGREDIENTS

ARE.

AND WE'LL SAY THAT THE MOST

COMMON TYPE OF CAKE IS

CHOCOLATE.

AND WE ALSO CALL THAT WILD TYPE

BECAUSE IT'S THE MOST COMMON

TYPE I THINK THAT'S AN

INTERESTING NAME.

WILD TYPE.

IT'S LIKE PEOPLE THAT HAVE BROWN

HAIR.

THAT IS THE MOST COMMON TYPE OF

HIRE COLOR.

BUT WOULDN'T YOU THINK BLONDS

ARE MORE WILD THAN BRUNETTES?

SO ABOUT WAY.

WILD TYPE.

SO WE HAVE OUR COCK LAT CAKE.

THEN WE REALIZE IF WE CHANGE OUR

RESPEE JUST A LITTLE BIT, WE

COULD HAVE STRAWBERRY CAKE.

THAT IS STILL A GOOD CAKE.

IT TASTES GOOD.

WE CAN HAVE LEMON CAKE, RED

VELVET CAKE, WEDDING CAKE, I'M

NOT CERTAIN WHAT ALL THOSE

OTHERS ARE BUT THEY ARE STILL

CAKE AND THEY TASTE REALLY GOOD.

SO IT'S JUST A CHANGE IN THE

RECIPE.

THEN AT AND POINT, THE RECIPE

CHANGES AND WE GET SOMETHING

THAT WE DON'T AND WANT WE DON'T

EXPECT.

AND THEN THIS SITUATION IS A

COOKIE.

AND SOMEONE SAYS, THERE IS

NOTHING WRONG WITH THE COOKIE.

I DIDN'T WANT A COOKIE.

SO IN THIS SITUATION, IT WOULD

BE A MUTATION BECAUSE IT'S NOT

WANTED.

TYPICALLY, A MUTATION IS NOT

GOING TO BE WORKING

APPROPRIATELY.

IT WOULD BE A DYSFUNCTIONAL OR

NONFUNCTIONAL PROTEIN.

OKAY.

SO THEN TO MOVE A LITTLE

FURTHER, A MUTATION IS A CHANGE

IN THE NORMAL BASE PAIR

SEQUENCE.

IT'S COMMONLY USED TO DEFINE DNA

SEQUENCE CHANGES THAT ALTER

PROTEIN FUNCTION WHERE WE

ALREADY SAID THAT AND REINFORCED

IT.

HOW WOULD WE USE THIS

INFORMATION IN THE NURSING

EDUCATION SETTING?

FIRST OF ALL, IT MIGHT HELP US

IDENTIFY AND DESCRIBE DISEASE OR

DISORDERS THAT ARE AFFECTED BY

THESE ABNORMAL PROTEINS.

OR THE ABNORMAL GENES.

ONCOLOGY IS A GOOD EXAMPLE.

IT MIGHT HELP US DISCUSS

BIOMARKERS THAT IDENTIFY

DYSFUNCTIONAL PROTEIN.

OR IT MIGHT HELP US IDENTIFY NEW

TREATMENTS.

SO AGAIN, IN THE CLINICAL

SETTING, AS WE ASSIGN PATIENTS,

IT WOULD BE SOMETHING THAT WE

COULD TALK WITH THEM WITH THE

STUDENTS ABOUT AND SAY, OKAY,

HOW DOES GENETICS IMPACT THIS

PARTICULAR PATIENT?

SO THEN WHEN WE THINK ABOUT

MUTATIONS EVEN MORE, A LITTLE

DEEPER, WE KNOW THERE IS SOMATIC

AND THERE ARE GERMLINE

MUTATIONS.

AND SOMATIC MUTATIONS, LET'S

START WITH GERMLINE.

GERMLINE MEANS IT'S PRESENT IN

THE EGG OR THE SPERM.

GERMLINE.

IT SEEMS TO ME THAT WOULD BE

BACTERIAL INTRODUCED AND SINCE

THE GERMLINE WOULD BE ABLE TO

KNOW THAT IT'S OV - OR SPERM.

THESE ARE HERITABLE AND THEY

CAUSE IN THIS WAYS, CANCER

FAMILY SYNDROMES.

SO IT AFFECTS ALL CELLS IN THE

OFFSPRING.

ALL CELLS ARE AFFECTED IN

GERMLINE MUTATIONS.

THE OTHER EXAMPLE IS SOMATIC.

SOMATIC OCCURS AFTER BIRTH AT

SOME TIME.

AFTER BIRTH AT SOME TIME.

AND IT IS NOT IN ALL THE CELLS.

SO, IT'S NOT HERITABLE.

IT'S ONLY A FEW OF THE CELLS AND

IT'S CALLED A SOMATIC MUTATION

FOR FOR EXAMPLE, SPORATTIC

BREAST CANCER.

SO EXAMPLES OF SOMATIC MUTATIONS

COULD BE NORMAL LUNG CELL AND

THEN WE SEE SOMETHING THAT

CAUSES A MUTATION OR A CHANGE.

AND IT ACCUMULATES MORE AND MORE

DNA MUTATIONS AND PROBLEMS.

UNTIL WE SEE A LUNG CANCER CELL

DEVELOP.

SO AGAIN, THIS IS ONE CELL THAT

DEVELOPS INTO A CANCER ANOTHER

EXAMPLE IS DIABETES.

YOU HAVE A NORMAL CELL AND ONE

THEORY OF DIABETES IS THAT IT'S

VIRAL AND INDUCED.

SO IT COULD BE THAT WE WOULD

HAVE SOME CHANGES, MUTATIONS AND

IT WOULD CREATE A DIABETES ISLET

CELL WITH NONFUNCTIONING

PROTEINS.

SO ESSENTIAL 7 AND 9 THEN TALK

ABOUT I'VEING PATIENTS WITH

GERMLINE VERSES SOMATIC

DISORDERS IN ALL CLINICAL

SETTINGS SO IT COULD BE OB OR IT

COULD BE MED SURGE OR

GERIATRICS.

I SEE PEOPLE NOT USING GENETICS

IN GERI.

WHAT HAPPENS WE COULD USE IT TO

ASSESS THIS MORPHISM WHEN I WAS

IN CLINICAL, WE TALKED ABOUT

FUNNY LOOKING KIDS IN IN

REALITY, ARE THERE CHANGES THAT

MIGHT MEAN THAT THERE IS

SOMETHING GOING ON WITH THIS

PATIENT THAT IS GENETIC?

THAT COULD BE IMPORTANT AND THEN

DISCUSS PATIENT EDUCATION

APPLICATIONS.

MYTOSIS IS ONLY ONE CELL.

NOT ALL CELLS.

THEN WE SEE GERMLINE BECOMING ME

AND GERMLINE MUTATIONS.

NURSING EDUCATION IMPLICATIONS

FOR THIS AGAIN COULD BE

FOLLOWING ESSENTIALS 7 AND 9.

FAMILY AND PATIENT EDUCATION

REGARDING PREVENTION AND

SCREENING OF GERMLINE MUTATIONS

SO BEING ABLE TO TALK WITH THE

FAMILIES AND THE PATIENT ABOUT,

WHAT DOES THIS MEAN FOR THE

PATIENT?

OR FOR MY GRANDCHILDREN ALSO

WITH ALL THE CHANGES LIKE

DR. GUTTMACHER WAS DESCRIBING

THIS MORNING, PROBABLY IN THE

NEXT 20 YEARS WHEN WE ALL FLY

SOMEWHERE, WE WILL GET OUR DNA

SEQUENCE AS WE GET ON THE

AIRPLANE AND WE WON'T BE GOING

THROUGH SOME OF THESE CHANGES

PERHAPS, WHO KNOWS.

EXPLANATION ABOUT MEDICATIONS

FOR PROVISION VENTION AND

CUSTOMIZED THERAPY.

WE ARE SEEING THIS HAPPEN IN

ONCOLOGY.

AND I'LL TALK ABOUT

PHARMACOGENETICS IN JUST A

SECOND.

DE NOVO MUTATIONS.

NO LAMLY HISTORY OF HEREDITARY

CANCER PRIOR TO THIS OR NO

FAMILY HISTORY OF ANY SKIIS,

DISEASE AND NEW MUTATIONS IN THE

GERM CELL.

IMPLICATIONS INCLUDE FAMILY

HISTORY TO SEE IF THERE IS SAY

DE NOVO.

LOOKING AT SOME OF THE LAB

TECHNOLOGY, FOR EXAMPLE, SKY

CHROMOSOMES, I LOVED TO SEE

THESE BECAUSE THIS SHOWS HOW THE

CHROMOSOMES ARE NOT ALL THE

SAME.

THERE ARE LARGE DELETIONS,

TRANSLOCATIONS AND THEREFORE WE

SEE DIFFERENT CHANGES.

THIS IS AN EXAMPLE OF

TRANSLOCATION OF THE GENES AND

SO THIS WOULD BE IMPORTANT TO

DESCRIBE WITH STUDENTS.

GENOTYPE VERSES PHENOTYPE WHAT

IS IN THE GENE VERSES WHAT IS

MANIFESTED IN THE PATIENT.

ESSENTIALS.

TALK ABOUT THE STUDENTS IN THE

CLINICAL SETTING WITH CASE

STUDIES.

WHAT IS GENOTYPIC VERSUS

PHENOTYPIC AND WHAT WE ARE

SEEING?

USE UTILIZED ASSESSMENT SKILLS

TO AGAIN IDENTIFY THE

DISMORPHISMS.

YOU COULD EVEN PLAY A GAME OF,

WHO AM I AND GIVE THEM THE

SITUATION AND THEN HAVE THEM

FIGURE OUT WHAT DISORDER IS THIS

AND THEN TAKE ON FURTHER AND

TALK ABOUT, WHAT WOULD YOU LOOK

FOR DIAGNOSTICALLY, WHAT WOULD

YOU WANT TO SEE IS THERE.

WHAT WOULD YOU SEE FOR

TREATMENTS AND WHAT WOULD

NURSING INTERVENTIONS BE?

PATIENT ADVOCACY RELATED TO THE

FACT THAT SOME OF THESE

POPULATIONS ARE DIFFERENT

BECAUSE OF CHANGES WE SEE?

DEFINING ALLELES.

ALTERNATE FORM OF THE GENE.

AND ALLELE IS AN ALTERNATE FORM.

FOR EXAMPLE, DIFFERENT HAIR

COLOR.

IT GIVES US A DIFFERENT ALLELE.

AND ALLELE IS A GENE AND A

DIFFICULT FORM.

SO IF YOU HAVE BLONDE HAIR,

BROWN HAIR, RED HAIR, THOSE ARE

ALL ALLELES.

AND ONE IS ALWAYS IN CHARGE.

IF THERE IS A MUTATION, THEN

SOMEONE ELSE, IF YOU WILL, THEN

ANOTHER ALLELE IS IN CHARGE.

SO SOMETIMES YOU CAN HAVE

DISEASES THAT ARE FROM THE SAME

ALLELE, THE SAME GENE, AND A

DIFFERENT LOCUS.

A DIFFERENT GPS IF YOU WILL ON

THE GENE.

SO YOU CAN HAVE A DISEASE THAT

HAS A DIFFERENT LOCUS, HAS A

DIFFERENT ALLELE BUT IT'S THE

SAME PHENOTYPE AND THE BEST

EXAMPLE IS BREAST CANCER.

OUR PHENOTYPE IS MANIFESTATION

AS A BREAST LUMP.

A DIFFERENT LOCUS BECAUSE THERE

ARE TWO DIFFERENT CHROMOSOMES.

TWO DIFFERENT LOCI ON TWO

DIFFERENT ALLELES.

PENNYTANTS IS IF WE CAN SEE IT,

IT'S THERE.

THINGS THAT AFFECT PENNA

TRANSCOULD BE IMPORTANT TALKING

ABOUT GENES THAT MIGHT MODIFY

REPAIR MECHANISMS.

HORMONES LIKEST GIN, AGE AS WE

GET OLDER AND WE SEE PEOPLE HAVE

MORE CANCER DIAGNOSIS.

EPIGENETICS IS PART OF THIS.

WHAT WE KNOW ABOUT THAT IS IT

TENDS TO OCCUR FREQUENTLY WITH

CYTOSCREEN AND GUININE.

AND THEY TEND TO BE CLOSE TO THE

PROMOTOR.

SO WE MIGHT SEE CLUSTERS OF

THAT.

AND SO WHAT HAPPENS IS IF YOU
EAT LOTS OF MCDONALD'S
HAMBURGERS OR DO OTHER UNHEALTHY
THINGS, WE COULD START SEEING
METHYLATION AT THE CYTOZINE AND
GUININE.
WHAT HAPPENS IS THAT AS WE START
TRANSCRIPTION HERE, BUT THE
METHYLATION FORMED IN A WAY LIKE
A BRIDGE.
SO IT SKIPS WHAT WE TYPICALLY
WOULD SEE TRANSCRIBED AND GOES
FROM HERE TO HERE.
SO WHEN THEY TALK ABOUT THE DNA
DOESN'T CHANGE, IT'S BECAUSE IT
SKIPPED.
SO BECAUSE OF THESE METHYL
GROUPS AND THEY KIND OF FORM
LIKE A BRIDGE SO AGAIN WHAT
KINDS OF THINGS HELP US WITH
EPIGENETICS TALKING ABOUT
NUTRITION, DIET, EXERCISE,
BECAUSE THOSE CAN HELP KICK THE
GROUPS OFF.
SO, I SAID THAT.

TO PREVENT CERTAIN

MULTIFACTORIAL DISEASES.

CARRIER FREQUENCY, IS ANOTHER

CONCEPT BEING ABLE TO LOOK AT

PREVALENCE IN A POPULATION.

INCLUDINGS FOUNDER AFFECT.

GOOD EXAMPLES MIGHT BE JEWISH

POPULATION.

AND THEN TALKING ABOUT AUTOSOMAL

DOMINANT AND PERHAPS IN THE

CLASSROOM SETTING, YOU DON'T

ALWAYS HAVE TO DO ALL OF THIS

FROM SCRATCH EVERY TIME.

WHICH I THINK A LOT OF FACULTY

FEEL LIKE THEY HAVE TO DO.

REMEMBER BACK.

THIS IS AN EXAMPLE OF AUTOSOMAL

DOMINANCE.

THIS IS AN EXAMPLE OF RECESSIVE

THIS IS AN EXAMPLE OF X LINKED

AND THEN IN THE CLINICAL

SETTING, BEING ABLE TO AGAIN

TALK ABOUT WHY THEY THINK THE

SWITCH WON AND THEN UTILIZING

THE PEDIGREE.

PEDIGREE ALSO KNOWN AS FAMILY

HISTORY.

NOW PERSONALLY, I LIKE DIGGER

AND HIS FAMILY HISTORY.

BUT IN REALITY, THAT'S NOT

REALLY GOING TO GIVE ME VERY

GOOD INFORMATION ABOUT MY FAMILY

OR PATIENTS.

SO A COMPLETE FAMILY HISTORY IS

MUCH BETTER.

YOU WANT TO USE AT LEAST 3

GENERATIONS.

WE KNOW THAT SQUARES ARE MALES.

IT'S EASY TO REMEMBER THAT

BECAUSE ALL MALES ARE SQUARE.

AND WOMEN ARE WELL-ROUNDED.

RIGHT?

I'M IN A FANTASY WORLD, BUT ANY

WAY.

SO THEN MAKE CERTAIN WE CAN

COMMUNICATE SYMBOLS.

OBVIOUSLY, THIS MEANS THAT OUR

PERSON IN THIS FAMILY IS

DECEASED.

AND WHAT WE WOULD REEKY LIKE TO

SEE IS A D FOR DECEASED AND THEN
THE YEAR THEY WERE DIED AND FROM
WHAT DISEASE.
WE CAN SEE THAT THESE TWO HAVE A
PARTNERSHIP AND THAT THEY HAD 3
CHILDREN.
ONE FEMALE AND TWO MALES AND
THEN HERE WE SEE THERE IS SAY
CARRIER, MALE AND THEN MARRIED
TO A FEMALE AND THEN WE HAVE
THESE TWO CHILDREN AND THESE TWO
HAVE A MAJOR OR PARTNERSHIP AND
WE HAVE ONE CHILD AND THEN THAT
PERSON HAD ONE CHILD ALSO.
SO THE OTHER THING IS WE HAVE
DESIGNATED GENERATION 1, 2, 3
AND 4 AND THEN WE HAVE ALMS
DESIGNATED THAT THIS IS THE
MATERNAL SIDE, PATERNAL SIDE AND
THEORETICALLY THIS IS M1, M2 AS
A FIRST GENERATION SO THEY COULD
COMMUNICATE WHAT IS GOING TO
WITH WHICH INDIVIDUAL.
ALSO THIS COULD BE THEY ARE
AFFECTED WITH THE DISEASE.

SO THIS PERSON COULD BE A

CARRIER.

THIS ONE IS AFFECTED AND

PROBABLY WE WOULD SEE SOMETHING

HAPPEN HERE BUT REMEMBER THIS IS

MY FANTASY WORLD SO EVERYONE IS

WELL.

OKAY.

SO, AND LATER ON THEY'LL BE

TALKING ABOUT THE SURGEON

GENERAL'S SITE WHICH IS A SITE

THAT STUDENTS CAN USE TO BEGIN

TO DEVELOP FAMILY HISTORY.

COMMUNICATE THE SYMBOLS AND MAKE

CERTAIN THEY ARE UTILIZED IN

CLINICAL SETTINGS.

I FREQUENTLY HAVE STUDENTS THAT

SAID TO ME, DR. EGGERT, WE

LEARNED HOW TO DO PEDIGREES IN

EVERY SINGLE CLASS BUT WE HAVE

NEVER USED THEM IN CLINICAL.

AND THEY REALLY WERE WONDERING

WHY THAT WAS.

AND SO WE DID A LITTLE -- IT'S

NOT EASY AND PROBABLY THE BEST

APPROACH WOULD BE IF YOU'RE IN
MED SURGEON AND WORKING WITH A
PATIENT, MAYBE YOU NEED TO JUST
START OUT WITH HEART DISEASE OR
START OUT WITH CANCER OR START
OUT WITH ONE TYPE OF SYSTEMIC
DISEASE OR ONE DISEASE.
BUT THE POINT IS, WE DID A
LITTLE QUICK AND DIRTY RESEARCH
AND WE FOUND OUT THAT IT WORKED
IN A MOBILE SETTING AND THE
STUDENTS IDENTIFIED MORE HEALTH
PROBLEMS IN THEIR PEDIGREES THAN
THE HEALTH CARE PROVIDERS DID IN
THEIR FAMILY HISTORY.
SO THAT HELL AN IMPACT ON THE
CARE THEY COULD PROVIDE.
SO PHARMACOGENETICS QUICKLY
THROUGH THIS.
THIS IS REALLY JUST TO SHOW THAT
THERE IS A RELATIONSHIP BETWEEN
ALL THESE AND THEY WORK TOGETHER
FOR GOOD OR NOT GOOD.
WHEN WE THINK ABOUT GENETICS AND
WE COULD SEE GENETICS AND THE

DRUG TARGET AND IN THE TRANSPORT
SYSTEM OR DRUG METABOLISM WHICH
COULD BE CWP OR ENZYMES.
MUTATIONS CAN CAUSE ABSENCE OF
ENZYME AND CAUSE DIMINISHED
ENZYMES AND CAN CAUSE PROBLEMS
WITH SUBSTRATES, SPECIFICITIES
SO THE DRUG CANNOT TARGET
CORRECTLY.
AND IT COULD BE THAT WE WOULD
HAVE INCREASE ENZYME EXPRESSION.
SO, THE REST OF THIS YOU-ALL,
WHAT I TRIED TO JUST HELP US TO
REMEMBER IS THIS WOULD BE GREAT
FOR PHARMACOLOGY.
PHARMACOGENOMICS AND
PHARMACOLOGY.
JUST REMEMBERING THAT THE KIND
OF ALLELE THAT IS WE COULD SEE
WOULD BE HETEROZYG US AND
INTERMEDIATE METAB LIESERS.
THEY COULD BE EXTENSIVE OR POOR
METABOLIZER, RECESS ITCH
HOMOZYGOUS OR HYPERACTIVE.
AND ACTUALLY HAVE 3 GENES OR 3

ALLELES ASSOCIATED WITH THAT.

SO WHY IS THAT IMPORTANT?

BECAUSE THAT MOVES INTO OUR

INHIBITOR AND INDUCE OR,

CYTOCHROME ACTIVITY.

INHIBITOR IS GOING TO PREVENT

DECREASE SO THE DRAG ISN'T

DEGRADED SO WE HAVE LOTS OF

TOXICITY.

WHEN WE ARE THINKING ABOUT

STUDENTS IN THE CLINICAL

SETTINGS, LOTS OF TOXICITY

SPECIFICALLY IF WE KNEW A

PATIENT WAS GOING TO HAVE THAT

PROBLEM, WE WOULD BE ABLE TO

IDENTIFY A BETTER DRUG OR

IDENTIFY EARLY WE NEED TO

MONITOR EARLY FOR THESE

TOXICITIES.

IF IT ISOON AN INDUCE OR, IT

INCREASES ENZYME ACTIVITY SO

MORE DRUG IS DEACTIVATED.

AND THERE IS LESS DRUG AVAILABLE

FOR AFFECT.

SO YOU CAN APPRECIATE THAT

INDUCE ORS NEED LESS

DRUG -- MORE DRUG, EXCUSE ME.

AND INHIBITORS NEED LESS.

YES?

OKAY.

THESE ARE AGAIN JUST MORE

DESCRIPTION WITH THE TWO,

NONFUNGAL DRUGS.

THEY ARE INHIBITORS VERSES

ULTRA.

WOULD BE INDUCE ORS.

IF YOU HAVE AN ACTIVE DRUG

VERSES A PRO DRUG, THAT'S A POOR

METABOLIZER, THINGS IT WOULD BE

IMPORTANT FOR US TO POINT OUT TO

STUDENTS HAVE THEM THINK ABOUT

IN THE CLINICAL SETTING.

THIS JUST SHOWS AGAIN POOR

METABOLIZERS HAVE TOXIC DOSES

VERSES ULTRADON'T HAVE AN

EFFECTIVE DOSE.

ANOTHER WAY TO LOOK AT IT.

THIS LOOKS AT PRO DRUGS COME IN

AND THEN THEY HAVE TO BE

METABALIZED AND ACTIVE DRUGS ARE

LATER.

THIS IS I GUESS ANOTHER WAY TO

LOOK AT THIS.

HELPING STUDENTS UNDERSTAND WHAT

ARE CYTOCHROME P450S?

IT'S A GROUP OF MORE THAN 40

ENZYME SYSTEMS.

SNP MEANS THEY ARE HUMAN.

WHO KNEW THAT SNP WAS ANOTHER

WORD FOR HUMAN.

ADD A NUMBER FOR THE FAMILY, FOR

EXAMPLE, SIP 1 IS THE FIRST

CYTOCHROME.

SIP 2, SECOND, ET CETERA.

ADD A CAPITOL LETTER FOR A

SUBFAMILY, ADD A SECOND NUMBER

FOR A SINGLE ENZYME.

AND THEN AN ASTERISK AND A

NUMBER FOR THE VARIANT.

SO, IF YOU HAVE ASTERISK 1, THAT

IS THE NORMAL GENE.

ANYTHING AFTER ASTERISK 1 IS A

VARIANT.

SO ASTERISK 1 IS NORMAL AND THEN

THE VARIANTS.

OKAY.

SO WHY IS THAT IMPORTANT?

AGAIN, BECAUSE WE KNOW THAT SOME

OF THESE, ESPECIALLY THIS SIP

2D6, WE SEE THIS 10% OF OUR

PATIENTS ARE POOR METABOLIZERS

AND HAVE THIS GENE.

AND 7%.

SO YES, THAT'S NOT VERY MANY.

THAT'S VERY FEW.

BUT IT'S STILL ENOUGH THAT WE

ARE GOING TO NEED TO FIGURE OUT,

DO WE NEED MORE DRUG OR LESS

DRUG?

WHAT TOXICITY?

SIP 2C9 IS ANOTHER EXAMPLE ASK

THEN THE SIP 2C19.

SO AGAIN, DECREASE THE DOSE

VERSES INCREASE THE DOSE.

AND ESSENTIALS IN THE CLINICAL

SETTING, IDENTIFY THE CYTOCHROME

FAMILY.

AND THE MEDICATIONS AND THE

DIETS.

FOR EXAMPLE, GRAPEFRUIT, WE KNOW

CAN CAUSE CHANGES IN UPTAKE.

UTILIZE THE PET GREED TO REVIEW

FAMILY HISTORY.

IT COULD BE THERE ARE LOTS OF

PEOPLE IN THIS FAMILY THAT

CANNOT METABOLIZE CODEINE.

THEY ACTUALLY NEED MORPHINE.

SO THEY ARE KNOWN AS DRUG

SEEKERS.

AND IN REALITY, IF WE GAVE THEM

MORPHINE INSTEAD OF CODEINE,

THEY WOULD NOT COME BACK AND

REQUIRE MORE MEDICATION.

SO THAT'S ANOTHER EXAMPLE.

IDENTIFY ETHNIC ORIGIN.

I HAVE SLIDES LATER ON TO

REINFORCE THAT.

THESE ARE NON-SIP ENZYMES BUT

STILL METABOLIZING.

WE KNOW THERE ARE A LOST ENZYMES

IN THE BODY THAT AFFECT DRUGS

BESIDES THE CYP ENZYME.

ONE EXAMPLE IS THIS TPMT.

AND WE'LL PRACTICE SAYING THAT

WORD DURING THE BREAK.

SO THIS IS GOING TO DEPEND ON

THE ENZYME AND THE DRUG.

NOTE THE ALLELES AND WHAT I WANT

TO SHOW YOU HERE AGAIN IS THAT

WE ARE GOING TO SEE LOTS OF

TOXICITY SO IT WILL BE IMPORTANT

TO CHECK RED BLOOD CELL LABS,

EDUCATION, OTHER KINDS OF

TOXICITIES IN THIS PARTICULAR

TYPE.

THERE ARE SOME, AND I'LL SHOW

THAT YOU IN A SECOND, THERE ARE

SOME THAT ARE AVAILABLE ENZYMES

THAT CAN ACTUALLY BE TESTED.

THIS IS ANOTHER ENZYME

PREVIOUSLY IT TALKED ABOUT

ETHNIC GROUPS.

PLEASE NOTICE THAT IN THE

CAUCASIAN GROUP, IT'S THE WILD

TYPE.

MOST COMMON.

AND AFRICAN-AMERICAN WE SEE

HOMOZYGOUS IS THE MOST COMMON.

ASIAN, IT'S THE LEAST COMMON.

SO AGAIN, WE ARE GOING TO SEE

SOME DIFFERENT CHANGES IN PEOPLE

THAT HAVE POLYMORPH FILMS THIS

ENZYME.

AND THIS IS JUST AN EXAMPLE OF

WHAT WE MIGHT NEED TO REINFORCE

WITH OUR STUDENTS.

IT COULD BE THE DRUG TARGETS.

AND EPIDERMAL GROWTH FACTOR, FOR

EXAMPLE WORKING IN ONCOLOGY,

THAT WILL BE IMPLICATIONS TO

WORK WITH THIS.

SO WHY GENETIC TESTING?

MOST MEDICATIONS ARE PRESCRIBED

WITHOUT ASSURANCE.

THESE WOULD BE GOOD QUESTIONS TO

TALK WITH STUDENTS IN THE

CLINICAL ARENA BECAUSE IT'S

BETTER TO FIND ONE THAT WORKS

INSTEAD OF USING MULTIPLE.

THERE ARE BILLIONS, THOUSANDS OF

DOLLARS THAT ARE USED AT LEAST

TRYING TO IDENTIFY WHICH DRUGS,

ADVERSE DRUG REACTIONS TRYING TO

PREVENT THOSE AND THE IMPORTANCE

OF PATIENT EDUCATION.

WE TALKED ABOUT ASSESSING THE

PATIENTS ARRANGING FOR GENETIC

TESTING.

THE CYP TWO.

D.6 HAS GENET ECK TESTING

AVAILABLE FOR IT.

THROUGH THE CHIP AND IT CAN BE

HELPFUL IN CLINICAL SETTING.

AND EDUCATION ABOUT WHY TESTING

IS THEN AFTER DIAGNOSE BUT

BEFORE THERAPY.

EXPLAINING GENETIC TESTING Y WE

ONLY NEED TO DO IT ONCE.

IMPLICATIONS, WHY DIFFERENT

DRUGS?

PHENOTYPE VERSES GENOTYPE.

AGAIN THIS ALL REFLECTS BACK TO

THE EARLY INFORMATION.

AND THEN TALKING ABOUT ETHNIC

GROUP VARIATION.

I ALREADY IDENTIFIED THE

DIFFERENCE WITH CODEINE,

AFRICAN-AMERICANS ESPECIALLY

HAVE A LOW-LEVEL OF THAT ENZYME.

SO IT CONVERTS IT TO MORPHINE.

SO AGAIN, IT REINFORCES THE

IMPORTANCE OF ADVOCACY AND

TEACHING THE STUDENTS ABOUT

ADVOCACY AND FURTHER ASSESSING

AND THEN I JUST INCLUDED THESE

SLIDES BECAUSE I THOUGHT IT

REINFORCED THE ETHNICITY.

HERE WE HAVE AMERICANS AND

NOTICE THIS IS THAT CYP TWO.

D.6.

THIS CYTOCHROME WORKS ON 25% OF

OUR MEDICATION.

SO, AMERICANS 7.7% ARE POOR

METABOLIZERS AND

ULTRAMETABOLIZERS ARE 4.3.

WHAT WE KNOW IS THAT OUR

MIXTURES.

WHEN WE MOVE THIS DOWN, HERE WE

HAVE TWISTS 10% POOR

METABOLIZERS, SPANISH ULTRAAND

WE KEEP MOVING.

NOTICE ETHIOPIANS, 29.

VERY FEW POOR.

SOUTH AFRICANS MOSTLY OR 19% ARE

POOR.

AND THEN WE HAVE SAUDI ARABIAN

THAT IS DO HAVE MORE ADD

MIXTURES THAN PERHAPS SOME OF US

MIGHT HAVE THOUGHT.

SO THAT REINFORCES ADD MIXTURES.

SO THE GROWTH OF MY PRESENTATION

WAS TO IDENTIFY BASIC GENETIC

AND GENOMIC CONCEPTS FOR WHAT WE

REALLY NEED TO KNOW.

DESCRIBE BASIC PHARMACOGENETTIC

AND GENOMIC CONCEPTS FOR WHAT WE

NEED TO KNOW AND SUGGEST

APPLICATIONS BASED ON THE

ESSENTIALS.

QUESTIONS?

THAT'S A LOT OF INFORMATION.

>> MY MIND IS REALING FROM A

PRESCRIBER'S PERSPECTIVE AND

WHEN -- AND I THINK WE NEED TOW

EXPAND A COURSE THIS TYPE OF

LECTURE FOR NURSE PRACTITIONER

STUDENTS.

HOW?

I MEAN JUST TALKING FROM THE

PHARMACOGENETICS AND ONLY ONE

DRUG THAT YOU TALKED ABOUT,

CODEINE AND MORPHINE --

>> THAT IS A GOOD QUESTION.

AND HOW?

ALL IIC SAY IS FROM THE

PERSPECTIVE, I ALSO TEACH IN THE

NURSE PRACTITIONER PROGRAM, THAT

I THINK IT'S GOING TO HAVE TO BE

AN EXPANDED COURSE.

THAT INSTEAD OF ONE, 3 HOUR

COURSE IT WILL HAVE TO BE TWO

HOURS OR INCLUDED IN EVERY

SINGLE CLASS WHERE YOU HAVE OR

TALK ABOUT DISEASES AND THEIR

TREATMENT.

BUT THE OTHER THING IS

REMEMBERING THAT IT'S NOT ONLY

GENETICS.

THERE IS A LOT OF ENVIRONMENTS

THAT COMES INTO PLAY WITH THAT.

THE FOCUS FOR US TODAY IS

BACHELORIAT.

I DON'T THINK THE STUDENTS NEEDS

TO KNOW ALL OF THAT INFORMATION

BUT THEY NEED TO BE ABLE TO

RECOGNIZE THERE ARE CERTAIN

DRUGS THAT ESPECIALLY HAVE

IMPACT FROM THE SIP AND THE

OTHER METABOLIZING ENZYMES.

AND THOSE ARE AVAILABLE ON THE

INTERNET.

THOSE ARE AVAILABLE -- THERE ARE

TEXTBOOKS WITH CHAPTERS AND SO I

THINK IT'S EASIER TO SEE THE

ONES THAT ARE MOST COMMONLY

GIVEN, THE ONES THAT MOST

COMMONLY HAVE LOT OF SIDE

EFFECTS.

COUMADIN, FOR EXAMPLE, CAN NOW

BE TESTED.

DOES THAT ANSWER YOUR QUESTION?

>> YES.

AND DO YOU SEE -- LIKE PEOPLE

LIKE WHO WRITE PROGRAMS LIKE HI

POCKITIES, INCLUDING THIS TYPE

OF INFORMATION?

>> THEY ARE STARTING TO INCLUDE

IT MORE, YES.

WE HAD OUR MP STUDENTS GET IT

MORE FROM HI POCKRA TEES.

BUT IEGACY AGAIN, I WANT TO

POINT OUT THAT THE DEPTH ISN'T

IMPORTANT BUT IS IMPORTANT FOR

THE BACHELORIAT STUDENTS.

THEY NEED TO BE ABLE TO

COMMUNICATE WHAT IS GOING ON AND

THE RATIONAL BEHIND THEIR

CONCERNS.

ANYONE ELSE?

YOU GUYS ARE VERY QUIET.

THANK YOU.

[APPLAUSE]

WE'LL TAKE A BREAK.

RETURN BACK BY 10:15.

>>> CAN I HAVE EVERYBODY COME

PACK TO THE TABLE.

WE'LL HAVE A LITTLE MORE TIME TO

NETWORK AT LUNCH, I PROMISE.

>> ALL RIGHT.

GOT YOUR CAFFEINE?

GOT YOUR MUFFIN?

READY TO GO?

SO I THINK WE HAVE A GOOD STAGE

SET FOR THE MORNING ALREADY

BETWEEN DR.S GUTTMACHER AND

EAGERT AND THEIR PRESENTATIONS

AND SO WE ARE REALLY GOING TO

TALK A LITTLE BIT ABOUT THE

IMPLICATIONS FOR NURSING

PRACTICE AND EDUCATION AND COVER

A COUPLE OF RESOURCES.

AND I CUT A LITTLE BIT OF THIS

DOWN IN COMPARISON TO WHAT IS IN

YOUR SLIDE SET TO MAKE EFFORT TO

GET US BACK ON TRACK IN REGARDS

TO THE TIME SO WE ARE ABLE TO

GET YOU OUT ON TIME AT THE END

OF THE DAY AND STILL COVER OUR

CONTENT.

I REALLY WANT TO PRESENT THIS

FRAMEWORK, THIS CONCEPT THAT

GENETICS AND GENOMICS IS

INFLUENCING HEALTH CARE ACROSS

THE ENTIRE HEALTH CARE

CONTINUUM.

I THINK IN ONCOLOGY IS WHERE

THIS WAS RECOGNIZED THE EARLIEST

IN THE ONCOLOGY NURSING SOCIETY

HAS DONE SOME WORK IN THAT

REGARD, BUT YOU CAN THINK ABOUT

THIS IN REALLY FROM THE TIME OF
SORT OF EVEN RECONCEPTION ALL
THE WAY TO END OF LIFE.
AND THAT THE INFLUENCES THAT
EVERYBODY IS TALKING ABOUT THIS
MORNING IN REGARDS TO RISK FOR
DISEASE, USING GENETIC AND
GENOMIC TECHNOLOGIES TO HELP
DIAGNOSE DISTINCT DISEASES, TO
TREAT DIFFERENT DISEASES, THE
INFLUENCES FOR MEDICATIONS ALL
THE WAY THROUGH THE ENTIRE
CONTINUUM, INCLUDING WHAT
DR. EAGERT WAS MENTIONING IN
REGARDS TO PAIN CONTROL AND END
OF LIFE, EVEN.
ALL THROUGHOUT THAT ENTIRE
CONTINUUM, IS WHERE WE ARE
SEEING INFLUENCES.
IT DOES GIVE YOU SORT OF A
FLAVOR TO BEGIN TO TRANSLATE
THAT INTO YOUR CURRICULUM AND TO
THINK ABOUT HOW YOU CAN DO THAT.
IT MAY OR MAY NOT BE A SINGLE
ISOLATED COURSE BUT IN

INTEGRATION, THE THINGS YOU'RE
ALREADY TEACHING AND BEGINNING
TO LOOK AT THAT FROM A GENETIC
AND GENOMIC PERSPECTIVE AS
OPPOSED TO SOMETHING THAT IS
DIFFERENT.
SO, A LOT OF WHAT WE ARE BASING
WHAT EXACTLY IS IT THAT YOU NEED
TO TEACH TO IS BOTH FROM THE
PERSPECTIVE OF THE BACHELORIAT
ESSENTIALS THAT KATHY AND THE
AMERICAN ASSOCIATION OF COLLEGES
OF NURSING HAVE WORKED SO HARD
ON, AND REVISED.
WHICH ARE MOVING INTO THE
ACCREDITATION STANDARDS AND THE
NEW EVALUATIONS.
BUT SOME OF WHAT HAS BEEN
INCORPORATED INTO THAT DOCUMENT
IS BASED ON THE ESSENTIAL
CONTENTSIES FOR NURSING IN
GENETICS AND GENOMICS.
WHICH IS NOW IN ITS SECOND
EDITION.
YOU RECEIVED A COPY OF THAT WHEN

YOU CAME IN THIS MORNING AND
THAT IS WHAT WE WANT TO SPEND A
LITTLE BIT OF TIME OF GIVING YOU
A FLAVOR OF WHAT IS IN THAT
DOCUMENT NOW.
AND HOW THAT WAS DEVELOPED SO
YOU UNDERSTAND A LITTLE BIT
ABOUT THAT.
AND THE INTENT WAS TO HELP YOU
GUIDE CURRICULUM CONTENT AND A
LOT OF THIS WAS WHAT ULTIMATELY
WENT IN FROM THE GENETIC AND
GENOMIC PERSPECTIVE INTO THE
BACHELORIAT ESSENTIALS.
SO THE FRAMEWORK OF THESE
COMPETENCIES IS THAT THEY ARE
NOT REPLACING EXISTING SCOPES
AND STANDARDS.
AND THAT THESE COMPETENCIES ARE
APPLICABLE TO ALL NURSES,
IRRESPECTIVE OF THEIR ACADEMIC
PREPARATION, ROLE, CLINICAL
SPECIALTY, THEY ARE APPLICABLE
TO PEOPLE IN PRACTICE, THEY ARE
APPLICABLE TO STUDENTS LEARNING

ABOUT BEING A PRACTITIONER.

AND THAT THE FOCUS IS GENETICS

AND GENOMICS.

BECAUSE THAT IS REALLY WITH

GENOMICS, IT'S WHERE WE SEE THE

LARGEST INFLUENCE ON HEALTH CARE

TODAY.

THAT INFLUENCES EVERYBODY.

THERE ARE A FEW LANGUAGE THINGS.

CLIENTS ARE INTERPRETED IN THIS

DOCUMENT AND USED TO ALLOW AS

PERSONS, FAMILIES, COMMUNITIES

AND OR POPULATIONS.

AND I WILL MAKE A MENTION THAT

THIS WAS WRITTEN CONSISTENT WITH

BLOOMS TAXONOMY BECAUSE WE WERE

TOLD THAT ALL OF YOU WOULD KILL

FUSS WE DIDN'T DO THAT.

THERE ARE TWO DOMAINS.

THE FIRST IS PROFESSIONAL

RESPONSIBILITIES AND THEN

PROFESSIONAL PRACTICE AND THEN

SUB SETTINGS WITHIN PROFESSIONAL

PRACTICE WHICH IS ASSESSMENT

IDENTIFICATION REFERRAL AND

PROVISION OF EDUCATION CARE AND
SUPPORT THESE WERE STABBED
BEACON SENSE US AND IT WAS CLOSE
TO A YEAR AND A HALF TO TWO YEAR
PROCESS OF CONSENSUS AND THEN
THEY WENT OUT FOR ENDORSEMENT.
ENDORSEMENT WAS THAT
ORGANIZATIONS WERE AGREEING WITH
THE CONTENT OF THE DOCUMENT AND
THAT THEY WOULD SUPPORT AND PRY
VENT INITIATIVES WITHIN THEIR
OWN ORGANIZATION TO IMPLEMENT
THOSE COMPETENCEEES AND THAT THE
TERM OF ENDORSEMENT WAS FOR 5
YEARS.
YOU WEREN'T SIGNING ON TO
SOMETHING FOREVER.
49 ORGANIZATIONS THAT ENDORSE
AND I'LL HIGHLIGHT A COUPLE OF
GROUPS, THE AMERICAN ASSOCIATION
OF COLLEGES OF NURSING AND ALSO
THE NATIONAL LEAGUE FOR NURSING.
AS TWO OF THE MAJOR EDUCATION
ASSOCIATED ORGANIZATIONS THAT
HAVE ENDORSED THIS WE STARTED TO

GET UNSOLICITED ENDORSEMENTS

FROM SOME SCHOOLS OF NURSING SO

EARLY ADAPTERS WERE WITH US

RIGHT FROM THE TIME OF

CONSENSUS.

SO LET ME -- JUST FOR THE SAKE

OF TIME, TALK ABOUT THE

BACHELORIAT ESSENTIALS AND WE

HAVE THE EXPERT IN THE ROOM,

KATHY McGINN, WHO SPENT HYG

EFFORT AND MORE THAN A COUPLE OF

YEARS WORKING ON ESTABLISHING

CONSENSUS FOR THIS DOCUMENT.

AND IN THE END GENETICS AND

GENOMICS HAS BEEN INTEGRATED

THROUGHOUT AND MENTIONED IN

ISOLATION SCEEB OF 16 TIMES.

WE ARE PLEASED ABOUT THAT.

BUT THAT YOU'LL SEE SOME

CONCEPTS OF PEDIGREES AND THINGS

LIKE THAT IN

DIRECTLY -- INDIRECTLY GENETICS

AND GENOMICS WITHOUT USING THOSE

DIRECT TERMINOLOGIES.

SO THERE IS A WEAVE THROUGHOUT.

AND YOU'LL SEE THAT WHERE THEY
TALK ABOUT THE INFLUENCE OF
GENETICS AND GENOMICS ON HEALTH
AND NURSING PRACTICE.
OF THE ESSENTIALS, YOU'LL SEE
MOST OF THE CONTENT INTEGRATED
INTO THE CLINICAL PREVENTION AND
POPULATION HEALTH AND
PROFESSIONALISM AND PROFESSIONAL
VALUES.
BUT DR. EAGERT GAVE YOU A
FLAVOR.
YOU BEGIN TO THINK ABOUT HOW TO
EDUCATE YOUR STUDENT ABOUT
GENETICS AND GENOMICS, THERE ARE
ELEMENTS THAT CAN BE WOVEN INTO
MANY OF THE OTHER ESSENTIALS AND
MEETING SOME OF THOSE CRITERIA.
AND ENGTHEY ALSO EMPHASIZE THAT
THIS IS A VERY COMPLEX HEALTH
CARE ENVIRONMENT THAT YOU'RE
PREPARING NURSEES TO PRACTICE IN
AND GENETICS AND GENOMICS IS A
MAJOR COMPONENT TO THAT AND BY
NO MEANS IS IT THE ONLY THING

AND WE APPRECIATE THAT.
AND IT'S A HUGE ELEMENT
INFLUENCING HEALTH CARE AND THE
ENVIRONMENT AND THE PRACTICE OF
NURSING.
WE ARE NOW JUST LAUNCHING, AND I
SAY WE, BUT THE AMERICAN
ASSOCIATION OF COLLEGES NURSING
LAUNCHING THE PROVISION TO THE
MASTER'S ESSENTIALS.
AND I THINK WE CAN ANTICIPATE
THAT AS THAT CONSENSUS PROCESS
DEVELOPS OVER THE NEXT YEAR OR
MORE, THAT WE MAY SEE AGAIN MORE
INTEGRATION OF GEICS AND
GENOMICS INTO THAT DOCUMENT,
WHICH IN ITS CURRENT ITERATION
DOESN'T HAVE THAT INCLUDED IN
THE DOCUMENT THAT THEY WILL
BEGIN TO WORK FROM WITH THE
OCTOBER MEETING IN BALTIMORE AND
IT DOES HAVE SOME GEICS ALREADY
INTEGRATED INTO THAT AND AS THE
CONSENSUS PROCESS BUILDS, WE MAY
CONTINUE TO SEE MORE OF THAT AS

TIME GOES ON.

SO IT'S NOT JUST THE BASIC

PREPARATION BUT THAT

FOLLOW-THROUGH FOR THOSE OF YOU

WHO ARE IN SCHOOL THAT HAVE

PROGRAMS THAT PREPARE NURSES FOR

ADVANCED PRACTICE TO SEE THAT

THIS MAY ALSO CHANGE AS WELL.

VERY CLEARLY WE HAVE SPENT A LOT

OF TIME TRYING TO HEAR WHAT IT

IS THAT YOU NEED AS A FACULTY

MEMBER TO MEET THESE

COMPETENCIES TO INTEGRATE

GENETICS AND GENOMICS INTO YOUR

CURRICULUM AND ONE OF THE FIRST

THINGS WAS THAT THE COMPETENCIES

ARE NOT ENOUGH.

SO WHAT EXACTLY IS IT THAT I

NEED TO TEACH TO WHAT KNOWLEDGE

DO I NEED TO GIVE MY STUDENTS

FOR THEM TO ACHIEVE THIS

COMPETENCY?

AND SO, WE HAVE TAKEN ON AN

INITIATIVE AND IN THIS HE COULD

EDITION OF COMPETENCY,

INTEGRATED OUTCOME INDICATORS.

AND THE OUTCOME INDICATORS

INCLUDE TWO ELEMENTS, SPECIFIC

AREAS OF KNOWLEDGE THAT SUPPORT

EACH K TENCY AND CLINICAL

PERFORMANCE INDICATORS.

WHAT ARE THE KINDS OF THINGS

THAT AS A FACULTY MEMBER YOU

COULD MEASURE YOUR STUDENTS

AGAINST?

WHAT KINDS OF ACTIVITIES COULD

YOU INTEGRATE INTO YOUR

CLASSROOM OR CLINICAL

EXPERIENCES THAT WOULD BE OF

VALUE?

THESE ARE NOT PRINTIVE.

SO THIS IS NOT EVERYTHING THAT

EVERYONE NEEDS TO KNOW.

IT GIVES AWE A FLAVOR AND

OVERVIEW OF THE INFORMATION ARE

INFORMATION THAT SUPPORTS THE

KNOWLEDGE NEEDED TO ACHIEVE THAT

COMPETENCY AND SOME EXAMPLE

CLINICAL PERFORMANCE INDICATORS.

AND SO IT GIVES YOU A STARTING

BASE FROM WHICH TO MOVE FORWARD.

THESE OUTCOME INDICATORS WERE

ALSO DEVELOPED THROUGH A PROCESS

OF CONSENSUS.

AND WITH MANY OF OUR EXPERT

VISORS, MANY WHO ARE SPEAKERS

HERE TODAY, GIVING US FEEDBACK

AS THIS WENT ALONG IN HELPING US

TO DEVELOP THIS MATERIAL.

SO THAT IT WOULD BE USEFUL TO

YOU AS FACULTY AND SO WORKING

WITH OTHER FACULTY TO HAVE OR

HELP US DEVELOP THAT.

YOU WILL NOTICE THAT THERE IS A

CONSIDERABLE AMOUNT OF OVERLAP.

SO YOU WILL FIND THAT THERE MAY

BE SPECIFIC AREAS OF KNOWLEDGE

THAT ARE HELPING TO SUPPORT MORE

THAN ONE COMPETENCY.

AND WE HAVE PRESENTED THIS AT

MEETINGS WITH THE BACHELORIAT

PROGRAM AT AACN AND HEARD LOUD

AND CLEAR FROM THE FACULTY

REVIEWING EARLY ADDRESS OF THIS

THAT THEY WOULD LIKE THAT

OVERLAP BECAUSE IF THEY ARE

TEACHING TO A PARTICULAR

COMPETENCY, THEY WANT ALL OF THE

THINGS THEY WANT TO THINK ABOUT

IN ONE PLACE.

AND SO THAT IS WHY WE HAVE DONE

THAT TO MAKE IT EASIER FOR YOU.

THIS IS WHAT THEY LOOK LIKE IN

THE BACK PART OF THE MONOGRAPH

THAT YOU RECEIVED.

AND SO THERE WILL BE THE

SPECIFIC COMPETENCY AND THEN THE

KNOWLEDGE ELEMENTS WILL BE ON

THE LEFT AND PERFORMANCE

INDGATORS ON THE RIGHT.

MY ONLY TAKE HOME MESS SAGE WHAT

WE NEED TO BE TAKING TO MAY

CHANGE OVER TIME AND THESE ARE

JUST EXAMPLES AND THE CLINICAL

PERFORMANCE INDICATORS ARE

EXAMPLES.

THEY ARE NOT PRINTIVE.

THEY ARE JUST GIVING YOU AN IDEA

OF WHAT TO START WITH.

BEING ITALIAN I CAN TALK VERY

FAST.

I WANT TO MAKE SURE WE ARE ON

THE SAME PAGE AS THE RELEVANCE

OF THIS.

AND IN MANY CASES, I HEARD FROM

A NUMBER OF PEOPLE, DOES THIS

REALLY HAVE ANYTHING TO DO WITH

THE BACHELOR AT PREPARED NURSE

IF HOW IMPORTANT IS THIS?

HOW IMPORTANT IS THE FAMILY

HISTORY?

SO I'M GOING GIVE YOU A STORE

BEA NURSE THAT I WORK WITH WHO I

TALKED TO -- TAUGHT TO TAKE

FAMILY HISTORIES AND SHE'S A

BACHELORIAT PREPARED NURSE.

SHE WORKS IN THE NATIONAL NAVAL

MEDICAL CENTER WHICH IS JUST

ACROSS THE STREET HERE.

AND SHE WORKS IN THEIR BREAST

CARE CENTER AS A CASE MANAGER.

SO SHE HELPS TO MANAGE PEOPLE

NEWLY DIAGNOSED WITH BREAST

CANCER.

AND SO SHE CALLED ME ONE DAY ALL

NAY FRENZY, YOU CAN'T BELIEVE

WHAT HAPPENED.

AND SO SHE TOLD ME THIS STORY.

SHE JUST HUNG UP THE PHONE.

AND SHE HAD MANY, MANY MONTHS

EARLIER HAD BEEN TAKING CARE OF

A NEWLY DIAGNOSED BREAST CANCER

PATIENT AND HAD GONE IN AND THAT

PERSON HAD PRESENTED AS PART OF

HER ROUTINE ASSESSMENT, SHE DID

THE FAMILY HISTORY.

AND SHE ASKED ABOUT ALL OF THE

ELEMENTS THAT ARE IMPORTANT TO

FAMILY HISTORY, INCLUDING RACE

AND ETHNICITY, ON EACH BRANCH OF

THE FAMILY.

COLLECTED THAT INFORMATION AND

THEN WAS SHARING THAT WITH THE

HEALTH CARE PROVIDER.

AND THIS PERSON HAD COME WITH A

SUPPORT PERSON.

SOMEONE WHO IS A FRIEND OF HERS

WHO IS A BREAST CANCER SURVIVOR.

WHEN THE PHYSICIAN CAME INTO THE

ROOM TO DO THE EXAM, THE CASE

MANAGER EXITED THE ROOM AS DID

THE SUPPORT PERSON.

AND THE SUPPORT PERSON WHO WAS A

LONGSTANDING BREAST CANCER

SURVIVOR SAID, YOU KNOW, I WAS

CURIOUS ABOUT THIS FAMILY

HISTORY.

I DIDN'T REALIZE MY FATHER'S

FAMILY HISTORY HAD ANYTHING TO

DO WITH MY RISK FOR BREAST

CANCER.

AND I DIDN'T REALIZE THAT MY

ETHNIC BACKGROUND COULD

POTENTIALLY BE IMPORTANT.

AND THIS IS A WOMAN WHO HAD HAD

AN EARLY DIAGNOSIS OF BREAST

CANCER AND HAD A PA TERNAL

FAMILY HISTORY AND WAS JEWISH

HERITAGE.

AND SO BEING SOMEONE WHO HAD

BEEN TAUGHT THESE CORE

COMPETENCIES OF THESE NURSES AT

THE BACHELORIAT LEVEL SHE KNEW

HOW TO ASSESS, SHE KNEW THE RED

FLAGS.

THAT WAS A RED FLAG.

SHE KNEW HOW TO MAKE A REFERRAL.

SO SHE REFERRED THIS PERSON TO A

GENETIC HEALTH CARE PROVIDER IN

THEIR AREA.

AND SHE THOUGHT, I DID MY GOOD

DEED FOR THE DAY.

GOT MORE IMPORTANT THINGS TO DO.

I GOT ALL THESE PATIENTS TO TAKE

CARE OF.

OFF I GO.

THE PERSON WHO HAD JUST CALLED

HER WAS THIS SUPPORT PERSON, THE

BREAST CANCER SURVIVOR WHO WENT

TO THE GENETIC CONSULTATION,

FOUND OUT SHE DID HAVE A RISK OF

HARBORING A MUTATION IN A BREAST

CANCER SUSCEPTIBILITY GENE, GOT

GENETIC EDUCATION AND

COUNSELING, DECIDED TO BE

TESTED, WAS TESTED FOR THE 3

MUTATIONS THAT ARE COMMON IN

FAMILIES OF THIS JEWISH

HERITAGE.

FOUND OUT SHE HAD A MUTATION.

FOUND OUT SHE HAD INCREASED RISK

OF DEVELOPING ANOTHER BREAST

CANCER AND OVARIAN CANCER.

DECIDED TO HAVE HER OVERRIES

REMOVED AFTER CONSULTATION WITH

EXPERTS IN THE FIELD.

HAD HER OVERRIES REMOVED AND

JUST HAD HUNG UP THE PHONE FROM

THE SURGEON WEATHER TOLD HER

THEY HAD FOUND PRECANCEROUS

CELLS IN HER OVEREES.

WHO WAS THE PERSON WHO SAVED

HER?

I THINK THAT WE CAN HONESTLY SAY

THAT ONE PERSON WHO MADE THE

BIGGEST DIFFERENCE IN THIS THIS

CASE WAS BARB.

AND ALL SHE DID WAS VERY SIMPLE

THINGS.

SHE KNEW HOW TO TAKE A FAMILY

HISTORY.

SHE KNEW WHAT TO LOOK FOR.

SHE KNEW WHERE TO REFER.

THAT'S BACHELORIAT PREPARATION.

THAT'SBA WE WANT TO PREPARE OUR

STUDENTS TO DO.

SO I'M GOING TO END THERE.

AND DO YOU HAVE QUESTIONS?

>> WE ARE GOING TO UTILIZE SOME

OF OUR FACULTY CHAMPION

EXAMPLEULARS, PEOPLE WHO HAVE

BEGUN THIS

PROCESS -- EXEMPLARS -- INTEGRAT

ING GENETICS AND GENOMICS INTO

CURRICULUM AND WITH THEIR

STORIES HOPEFULLY WILL GIVE YOU

SOME IDEAS OF THINGS THAT MIGHT

WORK IN YOUR AREA.

SO, PLEASE TURN TO THE

INFORMATION ABOUT CINDY AND

KATHY'S SLIDES IN YOUR BROCHURE

AND WE'LL MOVE ON.

>> SO OUR NEXT SPEAKER IS

SIDNEY.

SHE GOT HER BSN AND HER MSN FROM

THE OF THE UNIVERSITY OF

CINCINNATI.

SHE HAS A STELLAR REPUTATION OF

DEVELOPING NOVEL ONLINE

EDUCATION PROGRAMS BOTH FOR

STUDENTS AND PRACTICING

PROVIDERS AND MOST IMPORTANTLY

HER IN PERSON AND NOW WEB-BASED

GENETIC INSTITUTES FOR FACULTY

AND SHE'LL TALK TO YOU MORE

ABOUT THAT THIS AFTERNOON.

SHE IS CURRENTLY IN THE DIVISION

OF PATIENT SERVICES AND HUMAN

GENETICS AT CHILDREN'S HOSPITAL

MEDICAL CENTER IN

CINCINNATI, OHIO.

AND WELCOME.

>> THAT WAS A GREAT POWERFUL

STORY.

I WAS ASKED Y. BY KATHY TO TALK

ABOUT HOW TO EVALUATE OR USURY

SOURCES FOR EVALUATING A NURSING

CURRICULUM AND YOU ALREADY HEARD

ABOUT THE BACHELORIAT ESSENTIALS

ANDY THE GENOMIC COMPETENCY.

AND SO BACK IN 20004, CHAIRS AND

I PUBLISHED A CHECK LIST THAT

WAS DEVELOPED FOR OR FROM 171

NURSING FACULTY.

MORE NURSING FACULTY THAN THAT

BUT FROM 171 DIFFERENT NURSING SCHOOLS WHO PARTICIPATED IN A GENETICS EDUCATION PROGRAM FOR NURSES, GENETIC SUMMER INSTITUTE OR ONE OF OUR WEB-BASED GENETICS INSTITUTES.

AND THEY WERE GIVEN ASSIGNMENTS TO COME UP WITH PLANS FOR HOW THEY WERE GOING TO INTEGRATE GENETICS INTO THEIR CURRICULUM.

AND SO, THIS CHECK LIST CAME FROM WAS ESSENTIALLY A SUMMARY OF WHAT THOSE NURSING FACULTY PLANNED.

AND THERE ARE 4 COMPONENTS TO THE CHECK LIST AND YOU DO HAVE THAT CHECK LIST IN YOUR BOOK, YOUR HAND OUT.

YOU DON'T HAVE THE SLIDES BECAUSE SLIDES ARE REALLY NOT IMPORTANT.

IT'S THE CHECK LIST.

ALTHOUGH THE SLIDES WILL BE AVAILABLE ON THE WEB IF YOU WANT THEM FOR SOME REASON.

AND THERE ARE 4 COMPONENTS TO
DETERMINE EXISTING GENETICS
CONTENT, IDENTIFIED GAPS,
INCREASE FACULTY AWARENESS ABOUT
THE NEED TO INCLUDE GENETICS AND
INCREASE FACULTY KNOWLEDGE ABOUT
GENETICS AND DIFFERENT
STRATEGIES FOR INTEGRATING
GENETICS CONTENT.
FOR THIS TALK I WAS ASKED TO
FOCUS ON DETERMINING THE
EXISTING GENETICS CONTENT.
AND IDENTIFYING THE GAPS.
SINCE THE CHECK AS WELL AS THERE
IN YOUR HAND OUT, YOU CAN READ
THAT.
BUT WHAT I THOUGHT I WOULD DO IS
WE HAVE SINCE HAD SEVERAL
DIFFERENT ADDITIONAL WEB-BASED
GENETICS INSTITUTES THAT ARE
ATTENDED BY NURSING FACULTY AS
WELL AS ADVANCE PRACTICE NURSES,
NURSE RESEARCHERS AND THEY NOW
GOAT CHOOSE WHAT THEIR CHANGE
PROJECT IS GOING TO BE AS THEY

FOCUS ON CURRICULUM OR COME UP
WITH A PLAN FOR HOW THEY ARE
GOING TO USE GENETICS IN THEIR
PRACTICE OR ARE THEY GOING TO
COME UP WITH A PLAN FOR HOW TO
INCORPORATE GENETICS INTO THEIR
RESEARCH PROJECTS?
65 PARTICIPANTS FROM THAT MANY
DIFFERENT SCHOOLS HAVE DESCRIBED
WHAT THEY WERE PLANNING IN
DISCUSSION THREADS.
AND PRETTY CONSISTENT WITH THE
CHECK LIST, 85% ASSESSED THEIR
NURSING CURRICULUM PRIMARILY
DIDACTIC COURSES AND HAVE YOU
START HEARING A THEME THAT IT'S
IMPORTANT YES THE DIDACTIC,
GETTING GENETICS CONTENT IN
THERE IS IMPORTANT, BUT IF YOU
DON'T TAKE IT FROM THAT COURSES
AND HELP STUDENTS TRANSLATE IT
IN THE CLINICAL ARENA, THEN HOW
ARE THEY GOING TO ACTUALLY USE
IT IN PRACTICE WHEN THEY GO OUT?
WE GOT TO GET IT INTO THOSE

CLINICAL COURSES AS WELL.

THROUGH% ASSESS THEIR PRENURSING

CURRICULUM.

SOMETIMES THEY WERE DOING WHAT

WERE THE GAPS.

WHAT CONTENT IS BEING DELIVERED

IN THE SCIENCE COURSES AND WHAT

GAPS IN GENETICS MEDED -- NEEDED

TO BE FILLED BUT ALSO SOMEWHERE

JUST ASSESSING THE PRENURSING

SCIENCE COURSES BECAUSE THEY

WANT TO KNOW WHAT THE FOUNDATION

WAS THAT THE STUDENTS WERE

COMING IN WITH AND THEN BUILD

FROM THAT POINT RATHER THAN

TRYING TO MAKE CHANGES IN THE

SCIENCE CURRICULUM.

AND THEN 28% ASSESSED THEIR OWN

COURSES.

THE OTHER METHODS THAT WERE USED

WERE INFORMAL AND THAT WAS TO

ASK INDIVIDUAL FACULTY WHERE ARE

THEY TEACHING, SOME FACULTY WERE

SIMPLY SAYING, YES, I HAVE A

GENETICS COURSE OR NO, I DON'T

AND THAT WAS THE ASSESSMENT.

AND ANOTHER THING WE ARE GOING

TO HEAR IS WHILE WE THINK A

GENETICS COURSE BY ITSELF IS

GREAT, SOME OF YOU SPOKE IN THE

VERY BEGINNING THAT THAT WAS

JUST NOT AN OPTION IN A CRAMMED

CURRICULUM.

AND IF YOU SIMPLY PUT ALL YOUR

DUCKS INTO A COURSE AND THERE IS

NOWHERE ELSE, THEN AGAIN, THE

STUDENTS CANNOT APPLY IT IN THE

DIFFERENT ARENAS THEY ARE IN AND

IT NEEDS TO BE THREADED

THROUGHOUT.

SO THE COURSE IS GREAT BUT

PLEASE, INTEGRATE AS WELL.

FACULTY WOULD GET THE COURSE

DESCRIPTIONS AND EVALUATE IT

FROM THAT AND LOOK TO SEE

WHETHER OBJECTIVES HAD ANY KIND

OF GENETICS IN IT AND OTHERS

WERE SURVEYING FACULTY.

SOME OF THESE THINGS THAT CAME

UP IN THE DESTRUCTION THREADS,

WHICH CONTINUES TO BE A THEME IS

TEXTBOOKS.

AND YOU HEARD THAT.

SOME MENTIONED THAT.

WHERE ARE THE TEXTBOOKS FOR

THIS?

WHICH TEXTBOOKS ARE GOOD?

THE TEXTBOOKS WE USED IN THE

WEB-BASED GENETICS INSTITUTE ARE

MORE OF THE HUMAN GENETICS

BECAUSE IN THE 18 WEEKS WE ARE

REALLY TRYING TO GIVE NURSING

FACULTY A FOUNDATION.

SO, BUT THAT MAY NOT BE AYE

APPROPRIATE.

WE HAVE SOME LIKE WE SAID, SOME

TEXTBOOKS THERE AND IN THE BACK

OF YOUR BOOKLET ON THE GENOMIC

COMPETENCIES, THERE ARE OTHER

LISTED AS WELL.

AND TO DETERMINE GAPS, THAT'S

PRETTY OBVIOUS.

TO COMPARE THEM TO THE

ESSENTIALS, AND THE GENETIC OR

GENOMICS COMPETENCY.

AND THEN SOME FACULTY HAVE PLANS

AND THIS IS GREAT TO EVALUATE

THE STUDENTS GENETICS KNOWLEDGE

NEAR GRADUATION.

AND THEN ONE YEAR AFTER THEY ARE

OUT IN PRACTICE.

AND WHAT A BETTER WAY TO

EVALUATE THE EFFECTIVENESS OF

YOUR CURRICULUM THAN -- I THINK

THAT'S IDEAL.

AND MORE POWER TO THEM.

SOME FACULTY THEIR ACCESSMENT

PROCESS WERE IDENTIFYING OTHER

FACULTY INTERESTED IN GENETICS.

THAT WAS SOMETHING WE HEARD

DURING THE GENETICS SUMMER

INSTITUTE AND WE HEAR IN THE

WEB-BASED GENETICS INSTITUTES I

DON'T WANT TO BE THE LONE RAGER

DOING ALL THE GENETICS.

I NEED A TEAM.

SO FINDING THOSE OTHER FACULTY

MEMBERS WHO ARE AT LEAST

INTERESTED IN GENETICS.

WHO SUPPORT IT BUT MIGHT BE A

LITTLE TIMID ABOUT IT.

AND HELP ONE ANOTHER MAKE THOSE

CHANGES.

ALSO, ANY GENETICS EXPERTS IN

THE COMMUNITY.

ASSIGNING STUDENTS WHERE THEY

MIGHT GET SOME GENETICS EXPOSURE

AND THEN ALSO ASSESSING FACULTY

MEMBER GENETICS KNOWLEDGE.

THIS IS ALL GOING TO PROVIDE YOU

A TYPE OF GAUGE FOR WHAT KIND OF

CURRICULUM CHANGE CAPACITY YOU

HAVE AT THAT TIME AND WHAT YOU

NEED TO WORK ON.

I REALLY LIKED THIS QUOTE.

MANY IN GENETICS HAVE BEEN

PREACHING THE IMPORTANCE OF

GETTING GENETICS THROUGHOUT THE

CURRICULUM.

ONE OF THE FACULTY MEMBERS SAID

EACH COURSE TOUCHES BRIEFLY ON

GENETICS SO ACCUMULATIVELY

STUDENTS SKIM BUT NEVER GET THE

WHOLE PICTURE.

I THINK THAT'S A WONDERFUL

INSIGHT AND A WONDERFUL CAUTION

AS YOU START TO DO THIS.

IT HAS TO BE A COORDINATED

EFFORT.

WELL PLANNED, STRATEGIC EFFORT

ON WHERE ARE YOU GOING TO PUT

THIS GENETIC CONTENT AND HOW ARE

YOU GOING TO BUILD FROM ONE

ANOTHER?

AGAIN HOW ARE YOU GOING TO HELP

THOSE CLINICAL FACULTY?

AND I UNDERSTAND THAT IT'S SOME

OF THE BIGGER SCHOOLS THEY ARE

HAVE INSTRUCTING RELY MORE AND

MORE ON PART-TIME, CLINICAL

FACULTY AND HOW ARE YOU GOING TO

HELP THEM BE ABLE TO GET THIS

INTO THEIR CURRICULUM AS WELL?

AND LATER ON IN THE AFTERNOON, I

WILL BE SHARING SOME RESOURCES

THAT WILL HELP AND YOU WILL HEAR

FROM OTHERS WHO ARE HELPING TO

DO THAT AS WELL.

SO I'M NOT GOING TO READ THROUGH

THESE BECAUSE I HAVE ALREADY

TALKED ABOUT SOME OF THE UPDATES

TO THE CHECK LIST I WOULD DO IF

I WERE -- IF CAROL AND I WERE

REPUBLISHING THOSE.

BUT, WE ALREADY TALKED ABOUT

THOSE.

THESE ARE THE UPDATED WEB SITES

FOR THE PDF.

AND THE SCOPE AND STANDARDS IS

2007 AND NOW ON THE CHECK LIST

IT'S THE 1998.

THIS WAS ANOTHER THING THAT

ANOTHER SUGGESTION BY ONE OF THE

FACULTY.

AND I THOUGHT, WOW, THAT'S A

REALLY GOOD IDEA.

I NEED TO START HOGGING THE

NURSING FACULTY IN OUR AREA THAT

MAYBE I COULD DO THIS.

AND THAT IS TO INVITE GENETICS

EXPERTS TO THE PRE OR POST

CLINICAL CONFERENCES.

SO, IF YOU HAPPEN TO HAVE THE

LUXURY OF HAVING SOME GENETIC

EXPERTISE IN THE HOSPITALS THAT

YOU GO TO, OR IN THE LOCAL AREA

THAT YOU CAN AGAIN INVITE TO

SOME OF THOSE CONFERENCES, THAT

WOULD BE ANOTHER AREA.

TO ADD GENETICS CONTENT.

AND NOW THAT IS IT FOR MY TALK.

IT'S NICE AND BRIEF.

AND I'M GOING TO INTRODUCE

DR. KATHY REED WHO WILL DISCUSS

HER ACTUAL EXPERIENCES AT BOSTON

COLLEGE SCHOOL OF NURSING AND

HOW SHE DID THIS.

[APPLAUSE]

>> HI.

SORE I MISSED THE INTRODUCTIONS.

I HAVE A FEELING THERE WAS RICH

INFORMATION GIVEN.

I FLEW IN FROM BOSTON AND MADE

IT JUST IN TIME.

BUT I LOOK FORWARD TO MEETING

SOME OF YOU LATER ON.

SO I WENT TO MY FIRST MEETING

ABOUT 12 YEARS AGO,

INTERNATIONAL SOCIETY OF NURSES

AND GENETICS.

I WAS A PHD STUDENT LOOKING FOR

LIKE MINDED PEOPLE AND THERE

THEY ALL WERE.

IT WAS A TREMENDOUS ENGINEER IN

THAT SMALL NURSING

ORGANIZATION -- ENERGY -- THAT

MENTORED ME ALONG THE WAY.

NOW I'M STANDING UP HERE TALKING

TO ALL OF MY COLLEAGUES AND IT'S

REALLY AN HONOR AND PRIVILEGE TO

BE HERE THAT THE VENUE TO TALK

ABOUT ONE OF MY PASSIONS, WHICH

IS GENETICS IN NURSING AND

TEACHING GENETICS TO NURSING

STUDENTS.

SO I COME TOO FROM BOSTON

COLLEGE.

THEY PUT BOSTON UNIVERSITY ON MY

NAME TAG.

IF YOU'RE FROM BOSTON, THERE IS

A BIG RIVALRY BETWEEN BOSTON

UNIVERSITIY AND BOSTON COLLEGE.

NO ONE ELSE CARES BUT IT'S A

JESUIT CATHOLIC UNIVERSITY AND

WE HAVE PRETTY BIG BACHELORIAT

PROGRAM.

I HAVE A 395 UNDERGRADS AND WE

HAVE A COUPLE HUNDRED MASTERS

AND PHD STUDENTS.

IT'S INTERESTING PLACE TO TEACH

BECAUSE WE TEACH ACROSS LEVELS.

SO I'M THE ASSOCIATE DEAN FOR

THE YOU UNDERSTAND GRAD PROGRAM

BUT I TEACH PATHOPHYSIOLOGY IN

THE MASTERS PROGRAM AND I HAVE

SEVERAL PHD STUDENTS I ADVISE.

IT'S GREAT.

GOOD FOR THE STUDENTS.

MY UNDERGRADS BENEFIT FROM WHAT

MY GRAND STUDENTS AND MY

KNOWLEDGE IN WORKING WITH GRAD

STUDENTS GET ME.

ANY WAY, SO OUR ACCREDITATIONS

VISIT WAS IN APRIL OF 08 AND THE

SOMEHOW I GOT THE JOB OF

AUTHORING THE SELF STUDY WHICH

IS A TERRIFYING EXPERIENCE.

I THAN YOU'RE ALL IN THE

BEGINNING OF THIS AND SOME OF

YOU PROBABLY HAVE SOME

EXPERIENCE.

I WAS INEXPERIENCED AT THE TIME

BUT I LEFT THE -- I OF COURSE WE

WERE SUCCESSFUL SO I WAS HAPPY

BUT I REALLY BECAME A VERY

STRONG PROPONENT OF THE PROCESS

BECAUSE I LEARNED A LOT AND IT

IS REALLY A GOOD THING FOR YOUR

CURRICULUM AND I JUST WANT TO

EMPHASIZE THAT THEY KEEP TELLING

YOU HOW THEY ARE THERE TO HELP

YOU.

AND I REALLY DID SENSE THAT

THROUGH THE WHOLE PROCESS.

I THINK WE GOT A LOT MORE OUT OF

IT AND IT'S NOT -- DON'T GO IN

THERE AND SCRUTINIZE EVERYTHING

YOU'RE DOING.

NOW WE WERE USING THE OLD

ESSENTIALS.

I THINK WE JUST GOT IN AT THE

LAST MINUTE FOR OUR USING THE

OLD ESSENTIALS.

SO IT WAS EASIER AND NOW WE ARE

DOING CURRICULUM CHANGE BASED ON

THE NEW ONCE.

YOU'RE ALL USING THE NEW

ESSENTIALS AND I HAVE TO SAY

THEY ARE EXTREMELY DETAILED.

THEY ARE EXTREMELY FORWARD

THINKING.

AND FABULOUS.

AND MANY OF US IN HERE

PARTICIPATED IN THE DRAFTS OF

THOSE AND SO DON'T -- MY MESSAGE

IS DON'T FEEL LIKE YOU HAVE TO

HAVE EVERYTHING.

THEY WANT TO SEE THERE IS A

PROCESS WORKING TOWARDS THE

BACHELORIAT ESSENTIALS AND WE

ARE ALL STILL DOING IT.

-- DOING IT.

TO HAVE ESSENTIALS THAT ARE

WATERED DOWN DOESN'T MEAN

ANYTHING.

WE HAVE GOALS TO WORK TOWARDS

NOW.

SO I CAME TO BC IN 01 AND I WAS

LUCKY TO COME TO A UNIVERSITY

WHERE THERE WERE PEOPLE WHO WERE

ALREADY INTERESTED IN GENETICS.

MARGARET AND SANDY AND JUDY.

SO I WAS IN GOOD COMPANY.

01 WAS A BIG YEAR.

YOU MAY HAVE HEARD THIS MORNING

WHAT HAPPENED IN 01 BUT THAT'S

WHEN THE HUMAN GENOME PROJECTS

JECT FINISHED UP, THE BEGINNING

OF OUR WORK.

I WAS ENERGIZED AT THE TIME.

I JUST FINISHED PIE DISSERTATION

IS AND I DECIDED I WANT TO DO

WORK IN FINDING OUT ABOUT

TEACHING GENETICS TO UNDERGRAD

STUDENTS.

THIS IS WHAT I WAS DOING AND I

WAS SERIOUS.

SO ALONG WITH MY COLLEAGUES, WE

DECIDED TO WRITE THIS ARTICLE

BASED ON A SURVEY I'M GOING TO

TALK ABOUT.

WE HAVE THIS ARTICLE IN YOUR

PACKET.

IT DOES GIVE MORE DETAILS ON

SOME OF THE THINGS I'M GOING

TALK ABOUT IN A SECOND.

AND THEN KATHY AND GENIE, GAVE

YOU THE ESSENTIALS.

WE HAVE REALLY COME A LONG WAY.

IT'S AMAZING THIS DOCUMENT IS

OUT IN THE SHAPE IT IS AND

PROVIDES US SO MUCH GUIDANCE.

AS YOU DO YOUR YOUR STUDIES,

YOUR MAIN THING IS TO SHOW HOW

YOUITE LIES NURSING PROFESSIONAL

GUIDANCES AND GUIDELINES.

SO THIS CAN REALLY PROVIDE

EVIDENCE THAT YOU ARE IN FACT

THINKING ABOUT THESE THINGS.

ARE YOU GOING TO HAVE IT DOWN BY

THE TIME YOU HAVE YOUR VISIT?

NO.

BUT YOU WILL BE IN THE PROCESS.

SO THE FIRST THING WE DID WAS

BASED ON SOME HISTORY AND I

MENTIONED MY COLLEAGUES AT

BOSTON COLLEGE WHO THOUGHT ABOUT

THIS BEFORE.

IN LATE 90's, AS PART OF THE

PROGRAM COMMITTEE WORK, HAD USED

GUIDELINES FOR RECOMMENDED
GENETICS CONTENT TO SURVEY THE
FACULTY AND FIND OUT WHAT WAS
GOING ON AND THERE WERE SOME
RECOMMENDATIONS AND SOME
FOLLOW-UP ON THAT.
AND THEN MORE FORMERLY, WE
FORMED THIS GENETIC INTEREST
GROUP IN 01.
THAT'S A GREAT THING TO DO IN
YOUR SCHOOL.
IT WAS 4 PEOPLE, 4 PEOPLE WHO
AUTHORED THE ARTICLE AND RANDOM
PEOPLE WHO CAME IN AND OUT OF
THE MEETINGS AS THEY WANTED TO.
AND WE HAD SOME TALKS ABOUT HOW
TO DO THIS.
HOW WE CAN MAKE THIS BETTER AND
WE HAD EMERGING PASSION FOR IT.
SO, WE DECIDED TO CONDUCT A
SURVEY OF OUR COURSE FACULTY TO
LOOK AT GENETICS AND SEE WHAT WE
DID.
WHEN YOU DO A SURVEY, YOU NEED
GUIDANCE FOR WHAT IT IS YOU'RE

GOING TO SURVEY.

AT THE TIME, THE NICHE PEG

GUIDELINES HAD JUST COME OUT AND

YOU HAVE A COPY OF THOSE.

THIS IS WHAT IT LOOKS LIKE.

IT'S THE NATIONAL COALITION FOR

HEALTH PROFESSIONAL EDUCATION

AND GENETICS.

THIS SAY MULTIDISCIPLINARY

GUIDANCE.

THIS IS WHAT ALL HEALTH

PROFESSIONALS ARE RECOMMENDED TO

KNOW ABOUT GENETICS.

SO THEY ARE NOT NURSING

SPECIFIC.

BUT AT THE TIME, WE DIDN'T HAVE

THAT NURSES BASE COMPETENCY SO

WE USED THIS TO SET UP A VERY

INFORMAL PAPER AND PENCIL SURVEY

WE DISTRIBUTED TO OUR FACULTY.

AND THE GUIDES LINES LOOK AT

KNOWLEDGE, SKILLS AND ATTITUDES

THAT ALL HEALTH PROFESSIONALS

SHOULD POSSESS.

TAKE AG LOOK AT THOSE.

THEY ARE PRINTED FOR YOU.

SO I'M A PROPONENT OF SURVEY

RESEARCH.

AND A SURVEY ISN'T THE ONLY WAY

TO FIGURE OUT YOU WHAT HAVE IN

YOUR CURRICULUM.

YOU KNOW THAT YOU COULD GO AND

LOOK AT ALL THE SYLLABUS.

BUT I FOUND FROM MY PERSONAL

EXPERIENCE THERE ARE THINGS THAT

ARE BEING TAUGHT IN THE COURSE

THAT DON'T OR AREN'T REFLECTED

IN THERE.

SO WE DECIDED TO ASK THE

FACULTY.

SO, WE CONSTRUCTED THIS SURVEY

BASED ON THE GUIDELINES FROM

20 -- FACULTY FROM 20 REQUIRED

SCIENCES AND NURSING COURSES AND

LUCKILY FOR ME AND MY

UNIVERSITY, THE STUDENTS ARE

ADMITTED AS FRESHMEN SO THEY

HAVE SCIENCE COURSES IN THE

UNIVERSITY AND I KNOW THE

FACULTIES ARE NOT IN THE SCHOOL

OF NURSING.

THAT'S A ADVANTAGE WE HAVE.

I GET TO KNOW THE 4 YEAR PROGRAM

THROUGH DAY ONE THROUGH

GRADUATION.

WE GOT 100% RESPONSE.

THAT'S EASY TO DO IF YOU DON'T

MAKE IT ANONYMOUS AND YOU CAN

NAG PEOPLE.

AND IT WAS SUCCESSFUL AND TO GET

A 20, THIS WASN'T THAT BAD.

THIS WASN'T SCIENTIFIC AT ALL.

BUT IT WAS REALLY -- I THOUGHT

IT WAS WORTH PUBLISHING.

SO, I DID.

AND IT WASN'T AS DAUNTING A TASK

AS I THOUGHT.

ALL WE DID WAS ASK THE FACULTY

TO INDICATE WHETHER THE COMP SEE

IS MED IN THEIR COURSE AND WE

TOOK OUT THE 9 COMPETENCIES

RELATED TO ADVANCE PRACTICE

RULE.

AND WE LEARNED THAT ALL THE

COMPETENCIES WERE ADDRESSED IN

AT LEAST ONE REQUIRED COURSE.

SOME MORE THAN OTHERS.

THIS MIGHT NOT SURPRISE YOU.

YOU MIGHT THINK ITS SAME THING

IN YOUR SCHOOL.

THE COMPETENCIES MOST OFTEN

ADDRESSED RELATED TO GENETICS,

TERMINOLOGY, HOW IDENTIFICATION

OF GENETIC VARIATION FACILITATES

CLINICAL CARE, IMPORTANT OF

FAMILY HISTORY AND NEED TO

PROTECT PRIVACY AND AUTONOMY.

WE DID BETTER THAN AVERAGE ON

THOSE.

WHAT WERE THE LEAST OFTEN

ADDRESSED THAT WERE IN THE

COMPETENCIES WERE INDICATIONS

FOR REFERRAL, HISTORY OF MISUSE

OF GENETIC INFORMATION AND WASTE

ACCESS AND DISSEMINATE CURRENT

INFORMATION ABOUT GENETICS AND

RELATED POLICY ISSUES.

THAT WAS 2002.

2003.

SO, I HAVEN'T REPEATED THAT

EXACT SURVEY BECAUSE IT'S NOT

EXACTLY THE SAME FACULTY.

BUT I WAS CURIOUS TO KNOW LAST

YE HOW FACULTY FELT ABOUT

GENETICS AND THE INFUSION IN THE

CURRICULUM.

AND I -- LET ME SAY SOMETHING

ELSE ABOUT THE SURVEY I STARTED

TO SAY WHY.

IT'S NOT JUST THE DATA THAT YOU

RECEIVE.

IT'S -- ITS THE WHOLE DIFFUSION

OF INNOVATION WHERE PEOPLE

START -- IT HEIGHTENED

EVERYONE'S AWARENESS OF

GENETICS.

THAT'S ALL IT DID.

EVERY FACULTY MEMBER THOUGHT,

WOW, YOU TOOK ENOUGH TIME TO

SURVEY ME ON THIS AND HERE IS

THE POINTS I SHOULD BE TEACHING

AND ALL OF A SUDDEN, THERE WAS A

HEIGHTENED AWARENESS EVERYWHERE.

IT WAS A SIMPLE THING TO

IMPLEMENT.

AND I RECK MONDAY YOU-ALL DO IT

IN ONE WAY OR

ANOTHER -- RECOMMEND.

WE DIDN'T HAVE SURVEY MONKEY.

WE DID PAPER AND PENCIL BUT EVEN

IF YOU DON'T USE THE DATA AND

DON'T BE AFRAID TO FIND OUT YOU

DON'T DO THINGS VERY WELL.

SOME OF YOUR SCHOOLS PROBABLY

TEACH A LOT OF GENETICS.

I KNOW THERE IS A LOT OF CROWDS

FROM MANY UNIVERSITIES WHO HAVE

DONE A LOT ON THIS ALREADY.

BUT IT'S NOT JUST THE OUTCOME OF

THE SURVEY.

IT'S THE PROCESS OF THE SURVEY

ITSELF.

SO, THAT LAST YEAR, I DID A

FOLLOW-UP AGAIN.

THIS IS NOT A SCIENTIFIC STUDY

AT ALL.

ALL I DID WAS ASK 3 QUESTIONS.

HOW IMPORTANT ARE GENETICS

RELATED CONCEPTS IN THE NURSING

CLINICAL COURSES YOU TEACH AND

MORE THAN 90% SAID SOMEWHAT OR

EXTREMELY IMPORTANT.

I DON'T THINK THAT I WOULD HAVE

GOT THEN RESULT IN 2002.

I DON'T KNOW.

THAT'S ALL I CAN SAY.

IT'S NOT SCIENTIFIC.

BUT I WAS PRETTY HAPPY WITH THAT

RESULT.

I THINK PEOPLE HAVE REALLY COME

ALONG.

I ASKED WHICH OF THE FOLLOWING

BEST DESCRIBES YOUR

INCORPORATION OF GENETICS

RELATED CONCEPTS INTO THE

NURSING THEATREY AND CLINICAL

COURSES OVER THE PAST 5 YEARS?

80%, MORE THAN 80% SAID SOMEWHAT

OR A GREAT DEAL.

AGAIN, I WAS PLEASED WITH THAT.

THERE WAS ONLY 23 RESPONSES TO

THIS AND THAT WAS NOT 100%

RESPONSE RATE.

AND THEN WHAT ARE YOUR USUAL

SOURCES OF INFORMATION ABOUT

GENETIC CONCEPTS?

IT WAS VARIABLE.

MOST PEOPLE PUT PERIODICALS AND

ONLINE SOURCES.

LESSER RELIANCE ON COURSE

TEXTBOOKS.

TEXTBOOKS IS WONDERFUL AS THEY

ARE THEY ARE A COUPLE YEARS

OUT-OF-DATE BY THE TIME WE GET

THEM IN OUR STUDENTS HANDS.

THE POPULAR PRESS, YOU HEARD

DR. GUTTMACHER WITH HIS "TIME"

MAGAZINE AND I HAVE USED IT A

FEW TIMES BECAUSE THEY CAN SCOOP

THE NEWS BEFORE I GET THE CHANCE

TO GET TO THE SCIENTIFIC

LITERATURE.

AND THEN THERE ARE SOME OTHER

SOURCES LIKE, WORD OF MOUTH,

GOING TO CONFERENCES ANDET SET A

PEOPLE GET INFORMATION FROM ALL

DIFFERENT WAYS.

SO WHEN YOU GO TO DO A SURVEY

AND YOU GO OR MORE IMPORTANTLY,

YOU GO TO WRITE YOURSELF A

STUDY.

YOU WANT TO SHOW THE

PROFESSIONAL NURSING GUIDELINES

AND STANDARDS YOU'RE GOING TO BE

LOOKING AT.

THERE IS A LOT OF THINGS.

I'M GOING TO MENTION A COUPLE OF

THEM THAT ARE GOOD OR NOT GOOD

AND YOU CAN DECIDE FOR YOURSELF.

LIKE I SAID, IF YOU'RE GOING TO

DO A SURVEY, GO BY SOMETHING.

DON'T MAKE IT UP IN YOUR HEAD.

SO THE FIRST THING WE

ALWAYS -- THAT IS VERY IMPORTANT

TO US AS EDUCATORS IS THE RN

TEST PLAN.

IT WAS THE MOST RECENT VERSION

ON THE WEB FROM 2007 AND I'M

SURE YOU-ALL KNOW HOW TO ACCESS

THAT.

AND THE OTHER ONE IS WHAT WE ARE

EMERSED IN RIGHT NOW, THE

BACHELORIAT NURSING EDUCATION.

SO I'M GOING TO TALK ABOUT

THOSE.

YOU MAY OR MAY NOT KNOW THIS BUT

THERE IS ONLY ONE TIME THAT THE

WORD GENETIC IS MENTIONED IN THE

RN DETAILED TEST PLAN.

SO I THINK WE HAVE A REALLY LONG

WAY TO GO.

BECAUSE WE ALL KNOW THAT WE SAY

WE DON'T TEACH FOR THE TEST BUT

THE REALITY IS, OUR STUDENTS

HAVE TO PASS THE LICENSURE EXAM.

IF WE'RE NOT ADDRESSING WHAT IS

IN THAT, NOW THEY HAVE REDONE

THE JOB STUDY THAT IT IS BASED

ON.

A PRACTICE ANALYSIS BUT IT TAKES

A LONG TIME FOR THAT TO GET IN

AND KATHY MENTIONED HOW -- AND

SO HAS CINDY ABOUT GENETICS NOT

BEING INCORPORATED.

AND THIS IS THE BIG GAP WE WILL

HAVE TO ADDRESS.

WHEN IT BECOMES A REQUIREMENT IN

DAY-TO-DAY CARE, IT'S EASIER TO

INCORPORATE IT.

WE NOW HAVE TO HELP THEM PICK

OCCUPY THE GENETICS.

NOW A LOT OF US HAVE WRITTEN

TEST QUESTIONS AND MANY PROBABLY

HAVE TOO.

IF YOU HAVEN'T IT'S A GREAT

EXPERIENCE.

IT'S WHERE I LEARNED TO YOU HO

WRITE EXAM QUESTIONS.

EVEN THOUGH THEY DON'T, WHEN YOU

GO TO ONE OF THE ITEM WRITING

SESSIONS, THEY DIVIDE YOU UP

INTO SITES.

THEY DON'T DIVIDE YOU UP

ACCORDING TO JEN EX.

I TRY TO MAKE ALL MY QUESTIONS

ABOUT GENETICS.

OF COURSE I HAVE NO IDEA THEY

FORGET IN THE LICENSURE EXAM OR

NOT.

I CAN ASK MY STUDENTS AND YOU

DON'T -- WHEN YOU ASK THEM WHAT

THEY SAW ON THE TEST, YOU DON'T

NECESSARILY GET THE DATA.

THEY ALWAYS TELL YOU THE THINGS

THAT ARE PROBABLY THE TEST

ITEMS.

THEY SAY IT WAS ALL DISASTER

PLANNING.

IF YOU HAD 15 QUESTIONS ON

DISASTER PLANNING, CHANCES ARE

THEY WERE TESTING OUT THOSE

QUESTIONS.

YOU-ALL HAVE THE SAME ISSUES I

DO WITH THE TEST.

SO, I THINK KATHY AND I NEED TO

GET TOGETHER BECAUSE SHE SAID

THIS APPEARS 16 TIMES.

MAYBE I'M MORE OPTIMISTIC.

WHEN I DID MY WORD CHECK FOR

GENETICS OR GENOMICS TURNS UP

18.

I WILL GO BACK AND CHECK.

ANY WAY, WE ARE -- I USED THE

THING IN THE PDF WHERE YOU ARE

SEARCH.

YOU KNOW, WE ARE ALL PRETTY

PROUD OF THAT.

AND A LOT OF US WORKED VERY HARD

GOING TO ALL OF THOSE MEETINGS

THAT YOU HAD, KATHY, AROUND THE

COUNTRY TO GET FEEDBACK FROM
PEOPLE AND I THINK IT'S PRETTY
AMAZING HOW MUCH GENETICS IS IN
THERE AND I'M REALLY PROUD OF
THAT.
SO I THINK I'M NOT SURE THAT
USING THE GENETICS CONCEPTS IN
THE ESSENTIALS IS A GOOD WAY TO
FORMAT A SURVEY BUT TAKE A LOOK
AT IT AND SEE IF YOU THINK THAT
THAT WOULD PROVIDE GUIDANCE ON
THE THINGS YOU WANT TO SORRY VEY
YOUR FACULTY ABOUT.
I JUST PUT AN EXAMPLE OF ON PAGE
31, AND I WON'T READ THIS TO YOU
BUT IT'S AN EXAMPLE OF GENETIC
AND GENOMIC CONTENT.
I NEVER DID COUNT HOW MANY TIMES
IT APPEARED IN THE OLD
ESSENTIALS.
DOES ANYONE KNOW THAT?
NOT MANY.
OF COURSE THEY ARE ONLY DONE
EVERY 10 YEARS OR SO.
SO EVERY 10 YEARS.

BUT I GUARANTEE 10 YEARS FROM

NOW WE WON'T BE TAKING OUT ANY

OF THE GENETICS CONTENT IN

THERE.

THERE ARE ALSO SOME OTHER

PROFESSIONAL NURSING STANDARDS

THAT YOU COULD LOOK AT AND I

HAVEN'T MENTIONED THOSE HERE.

I PROBABLY SHOULD.

ONE IS THE ISONG SCOPE AND

STANDARDS OF THE CLINICAL

NURSING AND ALSO THE OTHER KOCH

TENSIES YOU COULD USE.

-- COMPETENCIES.

I DON'T KNOW IF WE'LL TALK ABOUT

THESE OR NOT BUT IF IT WAS ME,

I'M GOING TO GO WITH THE GENETIC

AND GENOMIC COMPETENCIES SECOND

EDITION IF I'M GOING TO EVALUATE

MY CURRICULUM AGAIN.

OF COURSE, WE ARE EVALUATING OUR

CURRICULUM BECAUSE WE KNOW IT'S

AN ONGOING PROCESS.

EVERY NOW AND THEN, SOMETHING

STIMULATES TO YOU PUSH IT A

LITTLE MORE NOT JUST GO TO THE

MEETINGS AND MAKE RANDOM

CHANGES.

SO WE ARE UNDERGOING A

STRUCTURED CURRICULUM REVIEW AND

IT'S TIMELY BECAUSE THE

ESSENTIALS JUST CAME OUT AND THE

ECNE STANDARDS CHANGED AND WE

JUST HAD A SUCCESSFUL VISIT SO

WE CAN SIT BACK FOR A FEW YEARS

BEFORE WE HAVE TO WRITE OUR

5-YEAR REPORT.

THE PROBLEM THAT I'M HAVING THAT

I KNOW YOU HAVE IS THE MULTIPLE

COMPETING DEMANDS BECAUSE THE

ESSENTIALS ARE REALLY STRONG IN

GENETICS BUT ALSO REALLY STRONG

IN OTHERS THINGS WE NEED TO BEEF

UP IN OUR CURRICULUM.

GERONTOLOGY, INFORMATICS,

EVIDENCE BASED PRACTICE,

IT'S -- SO HOW DO YOU DO THAT

ALL?

YOU'RE SHAKING YOUR HEADS.

AND I DON'T HAVE THE ANSWER BUT

WE ARE TRYING.

WHAT WE HAVE DONE IS WE STARTED

OUR CURRICULUM REVISION LAST

JANUARY.

WE HAVE BEEN -- PROFESSOR SANDY

MOT IS SPEARHEADING THIS WITH

ME.

THAT'S GREAT FOR ME.

SHE HAS A LOT OF EXPERIENCE AND

SHE IS ALSO A FACULTY CHAMPION

FOR GENETICS SO THAT'S GOOD.

BUT WE MET MONTHLY JANUARY TO

JUNE AND THE FIRST THING WE DID

WAS SET OUR GOALS AND IDENTIFIED

OUR STRENGTHS AND LOOKED AT ALL

OF THESE PROFESSIONAL

GUIDELINES.

A LOST GUIDELINES FROM THE AACM

REGARDING CULTURAL COMPETENCIES.

I'M ALMOST DONE REVISING OUR

PROGRAM OBJECTIVES AND THAT'S A

BIG PLACE TO START.

I DON'T THINK THAT THE WORD,

GENETICS APPEARS IN OUR

UNDERGRADUATE PROGRAM OBJECT

JECTIVE.

BUT THE CONCEPT THAT WOULD ALLOW

THEM TO FIT IN UNDER THE COURSE

OBJECTIVES THAT ARE LEVEL REALLY

WORK.

NOW WE ARE CONVENING SUBGROUPS

BECAUSE WE HAVE DONE THE BASIC

WORK AND HOW WE HAVE TO SAY, ALL

RIGHT, WE JUST SENT SOME PEOPLE

TO THE AACN GERONTOLOGY

CONFERENCE.

THOSE PEOPLE WILL LOOK AT

THROUGHOUT THE CURRICULUM, WHERE

DO WE TEACH THE OLDER ADULTS?

WE DON'T HAVE A STAND ALONE

COURSE BUT MANY COURSES THAT FIT

IN.

SAME DEAL WITH GENETICS.

WE HAVE NEVER GONE DOWN THE

ROUTE OF A STAND ALONE COUPLES.

IT'S MY PERSONAL PHILOSOPHY AND

THE PHILOSOPHY OF THE, AT MY

SCHOOL THAT A STAND ALONE COURSE

WOULD BE FABULOUS BUT SOMETHING

ABOUT HAVING A STAND ALONE

COURSE IN A SCHOOL OF NURSING

MAKES THE FACULTY TEACHING

SPECIALTIES FEEL LIKE YOU GOT

THAT IN YOUR GENETICS COURSE?

I DON'T KNOW IF THAT'S THANK

YOU.

THAT'S JUST MY IMPRESSION.

RATHER THAN REALLY BEEFING IT UP

EVERYWHERE, WHICH IS WHAT WE

WANT TO DO.

YOU GOT TO BE IN PEDIATRICS AND

PSYCHIATRIC NURSING.

THE COURSE HAS TO BE IN ADULT

HEALTH.

I THINK A LOT OF US AROUND THE

TABLE GREW UP IN THE ERA WHERE

WE LEARNED GENETICS.

EVERYTHING I EVER LEARNED ABOUT

GENETICS WAS IN -- THAT'S NOT

WHERE IT NEEDS TO GO NOW.

ALL CANCER IS GENETIC.

WE HAVE TO GET THAT MESSAGE

ACROSS.

ALL CANCER IS NOTHING MORE THAN

A MUTATED CELL.

IT'S A GENETIC MUTATION.

ALZHEIMER'S DISEASE.

THERE IS A LOT OF GENETIC

IMPLICATIONS OF THAT.

CARDIOVASCULAR DISEASE, AGE

RELATED MACULAR DEGENERATION.

DIABETES, ALL OF THESE REALLY

IMPORTANT AND PREVALENT CAUSES

OF MORBIDITY AND MORTALITY IN

KITTLE IN THIS COUNTRY AND

ELSEWHERE, HAVE A GENETIC BASIS.

SO WE HAVE TO STOP

CONCEPTUALIZING IT AS A

PEDIATRIC ENTITY.

OUR STUDENTS ARE FINE WITH THAT.

HONESTLY, IT'S EMBARRASSING WHAT

OUR STUDENTS COME TO US KNOWING.

IF YOU LOOK THROUGH A HIGH

SCHOOL BIOLOGY BOOK LATELY, I

KNOW THIS FROM MY OWN KIDS.

IT'S STUNYING WHAT THEY LEARN.

DON'T LET THEM GET AWAY WITH

SAYING, YOU HAVE TO GO THROUGH

TEACHING THEM WHAT A SQUARE IS.

THEY KNOW IT.

WE HAVE TO GET UP TO SPEED

BECAUSE WE DIDN'T HAVE IT IN

HIGH SCHOOL OR COLLEGE.

AND SO ABOUT THAT DOESN'T

ABSOLVE US FROM THE

RESPONSIBILITY OF BEING STATE OF

THE SCIENCE I KNOW THIS

AFTERNOON IS WAYS TO INTEGRATE

THIS INTO THE CURRICULUM.

I CAN'T HELP BUT TO GIVE A FEW

OF MY EXPERIENCES.

WE HAVE A FULL AFTERNOON ON IT

BUT YOU WANT TO GET A KEY GROUP

TOGETHER IF YOU CAN.

EVEN IF IT'S TWO PEOPLE.

MORE POWERFUL THAN 1.

YOU KNOW IF YOU GO BACK WITH A

SINGLE PERSON IT WILL BE HARDER

THAN IF YOU HAVE A COMMITTEE.

YOU CAN ALWAYS SAY THE COMMITTEE

DECIDED.

IT'S ME AND ANOTHER PERSON, BUT

THAT'S WHAT I SAY.

I DO THAT WITH STUDENTS ALL THE

TIME.

THEY BUY IT.

AND THEN FOR MORE ON THE SURVEY,

IF YOU WANT TO, AND THEN JUST TO

YOU UNARE KNOW HOW YOU-ALL HAVE

FACULTY DEVELOPMENT PROGRAMS,

EVEN IF IT'S AN HOUR A YEAR.

GET SOMEBODY IN WHO CAN DO

SOME -- WHAT WE DID IS WE GOT A

GENETIC COUNSELOR FROM THE

UNIVERSITY TO COME IN AND TALK

ABOUT GENETICS IN THE ADULTS AND

IT'S IN THE COMMON ADULT ONSET

DISEASES.

FORGET CYSTIC FIBROSIS.

PEOPLE GET THAT.

THEY HAVE KNOWN ABOUT THAT FOR A

LONG TIME.

WE MIGHT NOT HAVE KNOWN ABOUT

THE EXACT GENE BUT WII WE KNEW

ABOUT THE GENETICS.

GET THEM TO TALK ABOUT.

THOSE ARE HARDER TO TALK ABOUT.

I CAN'T TELL YOU IT'S THIS IS A

LEAN SUBSTITUTION THAT IS CAUSES

ALZHEIMER'S DISEASE BUT YOU

WOULD BE SURPRISED WHAT WE DO

KNOW.

AND WE HAVE TO STOP BEING AFRAID

OF WHAT WE DON'T KNOW.

WE MADE A GENETICS BULLETIN

BOARD.

IT'S EASY.

EASES THINGS TO DO AND STUDENTS

GOT A LOT OF THINGS OUT OF IT.

AND THEN SEND KEY PEOPLE TO

MEETINGS.

THERE IS A LOT OF THEM

AVAILABLE.

YOU'RE GOING TO HEAR ABOUT SOME

OF THOSE THIS AFTERNOON.

USE YOUR PROFESSIONAL NURSING

STANDARDS AS A GUIDELINE.

AND THERE IS SO MANY RESOURCES

OUT THERE THAT YOU'RE GOING TO

HEAR ABOUT THIS AFTERNOON.

DON'T THINK YOU HAVE TO RIGHT

THESE RESOURCES.

STEEL THE SLIDES.

I DO IT ALL THE TIME.

I TEACH PATHOPHYSIOLOGY AND MY

WHOLE SLIDE PRESENTATION ON

GENETICS WAS LIFT FRIDAY

SOMEWHERE.

AND IT'S OUT THERE.

THEY WANT YOU TO USE IT.

-- LIFTED FROM SOMEWHERE.

MAKE SURE YOU KNOW WHAT IS

TAUGHT IN THE BASIC SCIENCE AND

HAVE EXPECTATIONS THAT THE

STUDENTS ARE GOING TO BUILD ON

THAT AND NOT START OVER.

WE START OVER TALKING ABOUT

AUTOSOMAL DOMINANT IN 4 COURSES.

WE FOUND OUT WE WERE DOING THAT.

WE HAVE TO STOP.

IT'S PART OF THE VERNACULAR.

AND FINALLY, GET RID OF THE FEAR

FACTOR.

ANY OF THESE EXPERTS IN THE ROOM

WILL TELL YOU THEY DON'T FILE

FEEL LIKE EXPERTS.

THE BIG THING ABOUT EDUCATION AS

MANY KNOW FROM YOUR DOCTORAL

PROGRAMS OR MASTERS PROGRAM, THE

MORE YOU KNOW, THE MORE YOU KNOW

YOU DON'T KNOW.

AND THAT'S ONE THING I REALLY

LEARNED THROUGH MY ENGIS HOW

MUCH INFORMATION THERE IS AND

HOW I DON'T KNOW MUCH OF IT.

BUT THAT DOESN'T REMOVE MY

FASHION FOR LEARNING IT.

AND MY REALITY ABOUT WHAT I CAN

ACHIEVE.

AND I CAN'T BE AN EXPERT.

BUT I KNOW MORE OF MY STUDENTS.

THANK YOU FROM THE CITY OF

BOSTON.

WE FINALLY FINISHED OUR BIG DIG.

STILL NOT ANY BETTER DRIVING.

I'M GOING TO BE AROUND ALL DAY

SO I CAN TAKE QUESTIONS NOW

OR -- WE HAVE PLENTY OF TIME FOR

QUESTIONS.

[APPLAUSE]

>> I MISSED THIS MORNING'S WHEN

YOU WERE TRIESING YOURSELF.

IF YOU DON'T HAVE QUESTIONS, I

WOULD BE INTERESTED IN HEARING

YOUR CHALLENGES OR SOLUTIONS.

>> I HAVE A QUIT QUESTION.

IT SOUNDS LIKE WE NEED TO DO A

SURVEY.

THAT'S ONE OF THE FIRST THINGS.

IS THERE A PRE-MADE SURVEY THAT

WE COULD STEEL?

>> ALL I DID WAS TAKE THE

COMPETENCIES AND PUT THEM ON A

PAGE OR ON SURVEY MONKEY AND

SAID, PLEASE STATE WHICH OF THE

FOLLOWING ARE COVERED IN YOUR

CLICK LUMSOMEWHAT OR NOT.

A LOT, SOMEWHAT OR NOT AT ALL.

IT WAS THAT INVOLVED.

I DON'T KNOW OF ANYBODY ELSE

THAT HAS DONE A SURVEY LIKE

THAT.

I HAVEN'T SEEN ONE.

AT LEAST WITH NURSING.

>> AND WE DID A NATIONAL SURVEY,

A COUPLE NATIONAL SURVEYS AND SO

BUT THEY ARE PRETTY DETAILED.

BUT I'M WILLING TO GIVE THOSE TO

YOU AND YOU CAN TAKE THEM APART

OR DO WHAT YOU WANT.

BUT I REALLY LIKE KATHY'S IDEAS.

JUST TAKING THE ESSENTIALS AND

KIND OF ASKING ABOUT THAT

PERSPECTIVE.

>> DID YOU HAVE THE INDIVIDUAL

FACULTY LIST THE COURSES IN

WHICH THEY TAUGHT SO IF THEY

TAUGHT SEVERAL COURSES THEY

LISTED THE NUMBER?

>> I DISTRIBUTE THE THE SURVEYS

BY COURSE.

SO A WROTE DOWN WHO TEACHES IT

AND SO THERE WERE A COUPLE OF

FACULTY THAT FILLED OUT TWO

SURVEYS.

BUT I WENT BY COURSE NOT BY

FACULTY NAME.

SO YOU'RE ALL PRECCNE REPORTING

RIGHT NOW?

THAT'S WHY YOU'RE HERE?

WHAT OTHER AREAS BESIDES

GENETICS THAT ARE CAUSING YOU

TENSION?

AND THERE IS SO MUCH GENETICS

RELATED TO THAT TOO.

>> THE NATIONAL SAFETY GOALS ARE

PART OF THAT AND GERIATRICS BUT

I THINK FACULTY ARE MORE

COMFORTABLE IN THOSE AREAS THAN

THE GENETICS CONTENT.

AND THAT IS WHERE THE PROBLEM

COMES.

SO,OY JUST TEACH PATHOPHYSIOLOGY

AND I DON'T CONSIDER MYSELF EVEN

A QUARTER OF AN EXPERT BUT I

PROBABLY HAVE A BETTER HANDLE ON

IT THAN A LOT OF MY FACULTY DO.

AND I JUST THINK THE WORD,

GENETICS SENDS A BOLT OF FEAR UP

THEM.

>> I WOULD SAY GENETICS IS A NEW

ORGANIC CHEMISTRY.

[LAUGHTER]

>> AND THERE ARE RESOURCES OUT

THERE.

AND WE WILL TALK ABOUT THEM IN

THE AFTERNOON.

AND SO, I CAN'T HELP WITH THAT.

IT WON'T SOLVE THE PROBLEM BUT

IT CAN HELP.

>> AND OF COURSE MY AREA HAS

ALWAYS BEEN THAT SEARCH.

SO FOR ME TO HELP THE OB OR

PHARMA, OR MENTAL HEALTH, I

CAN'T SPECIFICALLY DO THAT FOR

HOME.

>> IT'S ALWAYS BEEN INTERESTING

TO ME HOW THE CONCEPTS APPLY

EVERYWHERE.

AND I LIKE YOU TEACH

PATHOPHYSIOLOGY AND I HAVE ONE

CLASS ON GENETICS.

BUT THE CLASS HAS EVERY

SPECIALTY FROM NURSE ANESTHESIA

TO MASTER ENTRY STUDENT TO

NURSES.

IT'S CRAZY.

BUT THE BASIC CONCEPTS AND THE

MANDELIAN CONCEPTS APPLY EVEN IN

THE ADULT ONSET AND IN CANCER.

>> I THINK THERE AGAIN THE

MANDELIAN, THEY ARE MORE OF THE

STUDENTS COME TO OUR PROGRAM

WITH A BETTER HANDLE ON THAT

THAN ALL THIS MULTIFACTORIAL

GENOMICS STUFF.

AND SO THAT IS WHERE THEIR EYES

ARE OPENED.

AND THAT'S WHERE I THINK WE NEED

TO FOCUS ON MORE THAN THE

MANDELIAN.

>> IS SOMEONE GOING TO TALK

ABOUT THE SURGEON GENERAL'S

HEALTH HISTORY?

>> I MENTION TODAY AND I DO

HIGHLIGHT IT.

I DON'T GO THROUGH IT.

BUT YOU WILL SEE THE WEBSITE AND

I WILL TALK ABOUT HOW IT CAN BE

USED IN THE CURRICULUM.

BUT IT IS OR CAN BE A REALLY

VALUABLE TEACHING TOOL.

NOT JUST IN YOUR THEORY CLASSES

BUT IN THE CLINICAL ARENA.

>> AND WE ASK OUR STUDENTS DO A

3 GENERATION PEDIGREE OF THEIR

OWN FAMILY USING THAT SITE AND I

ALWAYS SAY, NURSES HAVE BEEN

DOING GENETICS NURSING FOREVER

BECAUSE WE ALWAYS TAKEN IT A

HEALTH HISTORY.

BUT WE HAVE TO START LOOKING

MORE SERIOUSLY AT THOSE ADULT ON

SETS DISORDERS INSTEAD OF JUST

ASKING ABOUT THE THINGS WE THINK

OF AND CHILDHOOD ONSET.

BECAUSE THAT'S WHERE THE

INFORMATION COMES FROM.

ANY GOOD CLINICIAN WILL TELL YOU

THE START.

LIKE YOUR COMPELLING STORY IS

ALL ABOUT THE FAMILY HISTORY.

>> AND YOU'RE ALREADY TEACHING

YOUR STUDENTS WHAT TO DO WHEN

THERE IS A FAMILY HISTORY.

MAYBE NOT DOING THE PEDIGREES

BUT GENIE AND I WERE TALKING

ABOUT THIS LAST NIGHT.

WHEN I GET A FAMILY HISTORY FOR

A FAMILY WHERE THERE A CHILD

WITH A CLEFT PALLET, I MIGHT GET

A STRONG FAMILY HISTORY OF

DIABETES.

WHAT THE DO I START TALKING

ABOUT?

NOT THE CLEFT LIP AND PALLET BUT

ARE YOU GETTING GLUCOSE TESTING?

IS YOUR FAMILY PHYSICIAN AWARE

OF THIS?

IS YOUR FAMILY NURSE

PRACTITIONERS AWARE OF THIS?

AND OR WITH CARDIOVASCULAR

DISEASE.

GETTING BLOOD PRESSURE CHECKS

AND THINGS FOR YOUR KIDS AND

CHOLESTEROL CHECKS IT'S JUST

REALLY GIVING AWE ANOTHER TOOL

TO LOOK AT IT MORE

COMPREHENSIVELY.

THEY DON'T HAVE TO SIT DOWN AND

TALK ABOUT THE INHERITANCE

PATTERNS.

BUT IF YOU SAW A FAMILY HISTORY

LIKE THAT, WOULD YOU FIRST REFER

BACK TO WHOEVER THEIR NEW YEAR'S

OR PEDIATRICIAN IS?

IT WOULDN'T NECESSARILY BE A

GENETICS REFERRAL.

SO THAT STUFF IS ALREADY BEING

DONE.

>> I THINK WON'T MAIN THINGS AND

YOU BROUGHT THIS UP IS FEAR OF

THE UNKNOWN.

-- I THINK FOR MYSELF EVEN IN

TEACHING MED SEARCH, THAT NOT

BEING - EYE FEEL LIKE I DON'T

HAVE ENOUGH INFORMATION TO

FOLLOW-UP ON THEIR QUESTIONS.

AND I THINK THAT FOR OTHER

FACULTIES THAT IS THE SAME

THING.

SO IT'S NOT BEING SO AFRAID OF

NOTLY KNOWING AND FIGURING OUT

WHERE THE RESOURCES ARE.

>> AND YOU KNOW, I GOT TO TELL

YOU, THE WORLD HEADS CHANGED IN

A COUPLE OF YEARS.

I CAN STAND IN MY CLASS WITH MY

LAPTOP AND IF MY STUDENT ASKED

ME A QUESTION, I CAN GOOGLE IT

AND GET A DARN GOOD WEBSITE WITH

THE ANSWER.

THIS IS THEY SEE I DON'T KNOW

ANYTHING.

STUDENTS ARE INTIMIDATED BY A

PROFESSOR THAT THEY THINK KNOWSY

EVERYTHING.

YOU CAN'T LET THEM THINK THAT'S

TRUE.

IF YOU CAN SAY, WHAT IS THIS

GOOGLE SITE?

IT'S NI; I'LL LOOK AT IT.

-- NIH.

THAT'S WHY WE ARE ALL IN THE JOB

WE DO BECAUSE IT'S NURSE CAN AND

EDUCATION.

IT'S STIMULATING BECAUSE IT'S

NOT BORING.

I TAUGHT ANATOMY FOR A COUPLE OF

YEARS AND GAVE THAT UP.

THAT HASN'T CHANGED IN 100,000

YEARS.

[LAUGHTER]

>> I JUST WANTED TO SAY THAT I,

BECAUSE I LECTURE ON GENETICS

AND I FEEL LIKE I DON'T KNOW

ANYTHING ABOUT GENETICS, SO MY

FIRST LECTURE I THOUGHT, LET ME

JUST, RAISE YOUR HAND IF YOU

REMEMBER FIFTH GRADE GENETICS

AND EVERYBODY DID THIS AND WE

STARTED TALKING ABOUT IT SO IT

BECAME A DISCUSSION LECTURE AS

OPPOSED TO BECAUSE EVERYBODY

KNOWS A LITTLE BIT.

SO THAT WAS A GOOD THOUGHT.

>> AND THE PROBLEM I HAVE, AND

YOU PROBABLY EXPERIENCE THIS

TOO, I JUST TAUGHT MY GENETICS

LECTURE LAST WEEKEND.

I HAD TO STAY 45 MINUTES AFTER

CLASS BECAUSE OF A LINE.

IT WAS ALL PEOPLE ONE WOMAN HAD

5 CHILDREN WITH SEVERE

DISABILITIES.

DO I THINK THEY COULD BE RELATED

OR COULD THAT BE A DIFFERENT

DISEASE.

I'M NOT A CLINICIAN RIGHT NOW.

GO SEE YOUR PERSON:

BUT EVERYBODY HAZE FAMILY AND A

FAMILY HISTORY.

AND YOU SEE THE WHEELS SPINNING

IN THE CLASS.

SO THAT'S GREAT.

THE MORE INTERACTIVE YOU CAN

MAKE THE CLASS, IT REALLY WORKS.

IT PUTS YOU IN BAD SITUATIONS

TOO TO QUESTIONS YOU DON'T KNOW

THE ANSWERS TO.

>> YOU CAN'T LET THEM SIT OVER

THERE.

[LAUGHTER]

WE HAVE STUDENTS WITH THEIR

LAPTOPS AND --

[LOW AUDIO]

>> OR TRY TO SELL YOU A TEST.

>> [LOW AUDIO]

>> I JUST HAD A THOUGHT.

BECAUSE DR. GUTTMACHER MENTIONED

THIS IS A LIFELONG PROCESS.

NONE OF US CAN REMAIN EXPERTS

RIGHT NOW BECAUSE IT IS EVOLVING

AT SUCH A RAPID RATE.

IF WE IDENTIFY THE MECHANISMS

FOR THAT CONTINUED LEARNING NOT

ONLY FOR US BUT FOR OUR STUDENTS

IN THE CLINICAL PRACTITIONERS,

WE WILL BE MUCH FURTHER AHEAD AS

THE EHRs AND THE

DECISION-MAKING TOOLS BECOME

AVAILABLE TO OUR PRACTITIONERS

IN THE FUTURE.

>> THAT BODIES ON WHAT I WAS

GOING TO SAY.

I THINK SOME OF MY COLLEAGUES

HAVE TO KNOW EVERYTHING.

IF YOU COME TO THE RELATION

EVERYTHING YOU TEACH THEM IS NO

LONGER TRUE BY THE TIME THEY

GRADUATE, WHICH IS REALLY TRUE.

I MEAN I WORK IN COMPUTERS AND I

WORK IN INFERTILITIY AND

GENETICS.

THOSE ARE 3 FIELDS THAT WE'RE

NOT USING DOS ANYMORE.

AND SO, IF YOU REALIZE THAT AND

YOU REALIZE THAT THE ONLY THING

THAT YOU TEACH THEM OF VALUE IS

HOW TO FIGURE OUT HOW TO FIGURE

OUT YOU WHAT KNOW AND DON'T KNOW

AND HOW TO KNOW YOU WHAT DON'T

KNOW, THAT IS THE CRITICAL THING

THAT WE ARE TEACHING STUDENTS T

BUILDS ON WHAT GENIE WAS SAYING.

IF YOU GET TO THE THAT POINT AND
YOU STOP JUST OBSESSING ABOUT
CONTENT AND START THINKING ABOUT
ALL OF THESE AREAS, THE CONTENT
IS JUST AN EXAMPLEULAR FOR
HELPING PEOPLE TO IDENTIFY HOW
TO FIND OUT WHAT THEY NEED TO
KNOW TO TAKE CARE OF A
PARTICULAR PATIENT.
THEN THAT IS THE CRITICAL THING.
>> I HAVE THE BAD JOB OF
ORGANIZING THE WEBINAR
PARTICIPANTS.
I WOULD LIKE TO SAY -- SOMEBODY
MAKE A COMMENT THAT IS USEFUL TO
SHARE.
THIS IS A GENETIC EPIDEMIOLOGIST
ALSO A NURSING FACULTY MEMBER
WHO COMMENTED ON THE ISSUE OF
THE SEAR AND TO FOCUS ON
GENETICS AND GENOMICS FROM A
PUBLIC HEALTH PERSPECTIVE AND
THAT THE APPLICATION OF GENETIC
KNOWLEDGE INTO EVERY DAY
CLINICAL PRACTICE IS A WAY TO

GET THROUGH THAT FEAR FACTOR

FROM THE FACULTY AND I THINK OUR

STUDENTS.

YOU-ALL KNOW THAT BETTER THAN I

DO.

WE ARE LESS FEARFUL BECAUSE WE

HAVE BEEN GETTING THIS SINCE

THEY MOVED THROUGH THEIR HIGH

SCHOOL EDUCATION.

>> WE HOPE THAT YOU'LL TAKE SOME

TIME AT LUNCH TO TALK WITH EACH

OTHER.

I KNOW PART OF THIS PROSIS

KNOWING EACH OTHER AS A GROUP

AND NOT JUST AS INDIVIDUALS AND

WE'LL PROVIDE OPPORTUNITIES TO

GET TO KNOW EACH OTHER OVER THE

NEXT YEAR AND GAIN FROM EACH

OTHER.

BUT LUNCHTIME WE CAN'T PROVIDE

BECAUSE IF THERE IS A CAFETERIA

IN THE FEDERAL BUILDING, WE HAVE

TO ALLOW YOU TO GET YOUR FOOD IN

THE CAFETERIA WHICH IS DOWN

STAIRS ON THE FIRST FLOOR.

SO WE WILL HAVE LUNCHTIME FOR

ABOUT AN HOUR.

SO WE WILL BE BACK TO THE

CONTENT PRESENTATIONS AT 12:30.

SO FEEL FREE TO WANDER.

IF YOU DON'T REMEMBER HOW YOU

GOT HERE, YOU NEED GUIDANCE ON

HOW TO GET TO THE FIRST FLOOR,

THERE IS ALSO A SMALL STORE DOWN

THERE THAT HAS SANDWICHES AND

SODAS AND SNACKS AS WELL RIGHT

BEFORE YOU GET TO THE CAFETERIA.

PLEASE FEEL FREE TO --

>> I THINK IF YOU BRING IT BACK

UP HERE IT WILL BE A GREAT

OPPORTUNITY TO TALK AND JUST

KIND OF NETWORK A LITTLE BIT.

BUT THAT'S UP TO YOU.

>> AND I'LL JUST CLARIFY FOR THE

WEBINAR PARTICIPANTS, OUR

SCHEDULE TO START OUR CONTENT AT

1:00.

SO -- DO WE WANT TO PUSH IT UP?

SO WE'LL START AT 1:00.

THAT GIVES US A LOT OF TIME TO

GET FOOD AND COME BACK AND

NETWORK.

AND IF IT'S NOT RAINING, WALK

OUTSIDE AND WANDER A LITTLE BIT.

BUT THANK YOU.

TEST.

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TEST.

>>> I'M GOING TO GET STARTED.

WELCOME TO THIS AFTERNOON OF

FACULTY CHOMP YON.

WE ARE VERY EXCITED TO HAVE SOME

WONDERFUL, WHAT WE CALL,

EXEMPLARS OF EDUCATION WAYS THAT

CAN INTEGRATE GENETICS AND

GENOMICS INTO THE CURRICULUM.

IT WILL BE A PANEL PRESENTATION

SO I'M GOING GIVEN YOU A LITTLE

BIT OF BACKGROUND ABOUT THE

SPEAKERS BEFORE WE BEGIN SO THEY

CAN KEEP FLOWING WITH THEIR

WONDERFUL EXPERTISE THEY CAN

SHARE WITH YOU.

SO AS WE MENTIONED EARLIER,

THERE IS A NUMBER OF WAYS YOU

CAN PROVIDE EDUCATION ABOUT

GENETICS AND GENOMICS.

AND MANY PEOPLE HAVE TRIED

DIFFERENT WAYS AND HAVE LEARNED

ABOUT THE PROS AND CONS OF DOING

EACH OF THOSE.

SO YOU'RE GOING TO HEAR SOME OF

THOSE EXAMPLES AND AS KATHY AND

I MENTIONED, NEXT YEAR WE WANT

TO HEAR WHAT HAS WORKED IN YOUR

SETTING OR WHAT HAS NOT WORKED

AND SO WE CAN LEARN FROM EACH

OTHER.

BUT TODAY WE WILL HAVE

PANELISTS, JANET WILLIAMS.

JANET, YOU WANT TO WAVE AT THEM?

>> DR. JANET WILLIAMS IS THE

KELTING PROFESSOR OF NURSING AND

DIRECTOR OF THE NINR, RP32

FUNDED DIRECTING NURSE POSTDOC

FELLOWSHIP AT THE UNIVERSITY OF

IOWA AND CHAIRS THE BEHAVIORAL

AND SCIENCE IRB AND HER RESEARCH
HAS BEEN FUNDED BY NIH, HRSA AND
PRIVATE FOUNDATION LOOKING AT
TEAM EXPERIENCES, FAMILY
MANAGEMENT, GENETIC
DISCRIMINATION AND FUNCTION OF
PERSONS WITH HUNTING TONS
DISEASE.
AND ALSO A LOT ABOUT
COMMUNICATION AMONG FAMILIES AND
HEALTH CARE PROVIDERS ABOUT
GENETIC TESTING.
SHE RECENTLY SERVED AS THE PANEL
MEMBER ON THE NIH STATE OF THE
SCIENCE CUP, CONFERENCE ABOUT
FAMILY HISTORY AND IF YOU
HAVEN'T HEARD ABOUT THAT OR YOU
WOULD LIKE TO LEARN MORE ABOUT
THAT, GO ON TO NIH.GOV AND LOOK
IF ARE THE STATE OF THE SCIENCE
CONFERENCE FAMILY HISTORY
REPORT.
WHICH HAS JUST BEEN DRAFTED.
SHE WAS VERY MUCH AN INTIMATE
PART OF THAT DISCUSSION.

DR. WILLIAMS IS ALSO A MEMBER OF
THE NINR ADVISORY COUNCIL AND
HER CLINICAL BACKGROUND IS IN
PEDIATRIC COUNSELING.
SHE HAS BEEN A MAIN STAY OF
GENETICS NURSING FOR MANY, MANY
CONTRIBUTIONS AND YEARS.
THANK YOU.
JANET BEEN SHARE -- WILL BE
SHARING AN INTEGRATED MODEL OF
EDUCATION.
THEN LORRAINE FRASIER, LORRAINE,
YOU WANT TO SHARE YOUR HAND?
LORRAINE FRASIER IS A
DISTINGUISHED NANCY WILLER SON
PROFESSOR OF NURSING AT THIEST
OF TEXAS AT HOUSETON SCHOOL OF
NURSING.
DR. FRASIER IS THE PRINCIPAL
INVESTIGATOR ON A RO1 PROTOCOL
DEPRESS ITCH SYMPTOMS AND
GENETIC INFLUENCES AND CARDIAC
OUTCOMES FUNDED BY NINR.
AND SHE IS ALSO THE PROJECT
DIRECTOR OF TECH JEN RESEARCH

WHICH SUPPORTS MULTICENTER,
MULTIINSTITUTIONAL BIOBANK
DEVELOPMENT OF CLINICAL DATA AND
BIOLOGICAL SAMPLING.
FOR CARDIOVASCULAR AND CANCER
PATIENTS AT THE TEXAS MEDICAL
CENTER.
SHE IS ALSO THE DIRECTOR OF THE
CENTER FOR CLINICAL AND
TRANSLATIONAL SCIENCE BIOBANK AT
THE UNIVERSITY OF TEXAS AND
HOUSTON.
LORRAINE WILL BE SHARING WITH
YOU AN EXAMPLE OF SHARED COURSE
WEAR, THOSE THAT DEVELOP FOR
ADVANCED PRACTICE PRIMARILY BUT
ALSO COULD BE A MODEL FOR THINGS
THAT YOU'RE THINKING ABOUT IN
THE BACHELORIAT SETTING.
DR. JUDITH LEWIS, WHO YOU HEARD
FROM ALREADY, DR. LOU SIS A
PROFESSOR AMARE TUS SCHOOL OF
NURSING VIRGINIA COMMONWEALTH
UNIVERSITY IN RICHMOND,
VIRGINIA.

JUDY HAS BEEN ALSO A MAIN STAY

IN GENETICKINGS NURSING

REPRESENTING US WELL IN THE

SECRETARY'S ADVISORY COMMISSION

FOR GENETICS HEALTH AND SOCIETY.

SHE WAS THE PREVIOUS ONE.

SACGT.

-- SACGHF IS THE ALSO ON THE

WEBSITE.

SO IF YOU SEARCH FOR SACGHF, YOU

CAN SEE WHERE SHE AND AGNESS AND

OTHER NURSES MADE CONTRIBUTIONS

AT THE POLICY SETTING.

THAT'S I RESOURCE YOU MIGHT WANT

TO KNOW ABOUT.

JUDY HAS 30 PLUS YEARS OF

TEACHING IN HIGHER DEGREES

PROGRAMS INCLUDING BOSTON STATE

COLLEGE, UNIVERSITY OF

MASSACHUSETTS IN BOSTON, MGH

INSTITUTE OF HEALTH PROFESSIONS

AND VIRGINIA COMMONWEALTH

UNIVERSITY.

AND I WON'T TELL YOU ABOUT ALL

OF THEIR PUBLICATIONS AND

PRESENTATIONS BUT IF YOU LOOKED

UP ANY OF THESE PEOPLE YOU WOULD

FIND LOTS AND LOTS OF LITERATURE

TO SHARE.

JUDY HAS BEEN KIND ENOUGH TO

TALK ABOUT A STAND ALONE COURSE

THAT IS BEING OFFERED IN YOUR

SETTING.

CORRECT?

SO LESSONS LEARNED FROM THAT.

AND THEN THE LAST PANEL IS

DR. EVET CONNOLLY.

EVET IS THERE ALSO.

SHE IS AN ASSOCIATE PROFESSOR OF

NURSING IN HUMAN GENETICS AT THE

UNIVERSITY OF PITTSBURGH.

NOW SEE WHAT IS DIFFERENT ABOUT

EVET, SHE HAS A BN BILEY, AND MS

IN GENETIC COUNSELING AND PHD IN

HUMAN GENETICS.

WHAT IS DIFFERENT?

SHE IS A DOCTOR WITH A PHD BUT

NOT A NURSE.

BUT WHAT EVET IS GOING TO SHARE

WITH US IS HOW VALUABLE

INTERDISCIPLINARY RESOURCES CAN

BE TO US.

WE ARE NOT IN THIS ALONE.

THERE ARE MANY, MANY DISCIPLINES

GOING THROUGH THE SAME THING WE

ARE AND CAN LEARN FROM EACH

OTHER AND SUPPORT EACH OTHER AND

EVET HAS BEEN AMAZE ATH THAT.

SHE WAS THE FIRST GENETICIST IN

THE COUNTRY TO HOLD A FULL-TIME

PRIMARY APPOINTMENT IN THE

SCHOOL OF NURSING AND DEVOTED TO

EDUCATING NURSES AND NURSE

SCIENTISTS.

SHE HAS BEEN INVOLVED WITH THE

ONCOLOGY NURSING SOCIETY

GENETICS ONLINE EDUCATION SERIES

AND MANY OF OUR PROFESSIONAL

ORGANIZATIONS HAVE RESOURCES FOR

US TO GET AND UTILIZE IN OUR

TEACHING AS WELL.

SHE IS ALSO BEEN INVOLVED AS

ADMINISTRATIVE FACT TEE FOR THE

NINH SUMMER GENETICS INSTITUTE

AND A CODIRECTOR OF THE NIH

TRAINING PROGRAM TARGETED

RESEARCH AND ACADEMIC TRAINING

IN GENOMICS AND RUNNINGS A FULLY

EQUIPPED LABORATORY THAT

CONDUCTS RESEARCH ON THE

CONTRIBUTIONS OF GENETIC

VARIATION IN PATIENT OUTCOMES.

I DON'T TELL YOU ALL THAT

BECAUSE THESE ARE EXPERTS.

BUT THEY BRING A WEALTH AND

DIVERSE EXPERIENCE THAT I THINK

YOU'LL GAIN FROM AS YOU HEAR

FROM THEIR PRESENTATION AND THEN

WE'LL HAVE TIME FOR DISCUSSIONS

SOW YOU CAN PICK THEIR BRAINS

ABOUT WHAT MIGHT WORK IN YOUR

AREA.

THERE MAY BE SOME EXAMPLES OF

MODELS OF CURRICULUM INTEGRATION

THAT WE HAVEN'T FOUGHT OF OR

YOU'RE USING SO FEEL FREE ALSO

IN THIS DISCUSSION TO SHARE THAT

SO WE LEARN FROM YOU AS WELL.

SO JANET, I NEED TO FIND YOUR

SLIDES.

>> THANK YOU.

IT'S EXCITING TO BE HERE.

I'VE WITHIN AT THIS FOR A LITTLE

WHILE AND IT'S FUN TO TALK TO

PEOPLE WHO ARE STARTING GENETICS

IN THEIR PROGRAM.

I'LL TRY TO TALK ABOUT THE

PRACTICAL THINGS OF WHAT HAPPENS

WHEN WE DID THIS IN IOWA.

WHAT WAS HELPFUL, WHAT MAY BE

WEREN'T SO HELPFUL.

AND I TRIED TO MAKE VERY

DETAILED SLIDES IN CASE HAVE YOU

QUESTIONS ABOUT THE DETAILS OF

WHAT VARIOUS FACULTY ARE DOING

AND I'M HAPPY TOP TAKE YOUR

QUESTIONS BACK TO THEM IF YOU

LIKE FURTHER INFORMATION.

SO WE STARTED THIS IN THE MID

1990's.

MYSELF AND ANOTHER FACULTY.

SO THERE WERE TWO OF US.

DAVE AND I.

WE WERE VERY INTERESTED IN

GENETICS.

MYSELF FROM A CLINICAL

BACKGROUND AND DEBFROM A

CLINICAL AND ACADEMIC

BACKGROUND.

AND SO WE WERE RATHER LUCKY IN

THAT THAT WAS THE YEAR WE WERE

DOING CURRICULUM CHANGE.

SO, THIS CURRICULUM IS PRETTY

OPEN AND A LOT OF WORK THAT

NEEDED TO BE DONE AND WE WERE

EAGER WORKERS.

WE WERE READY TO COME HELP SOLVE

THOSE PROBLEMS.

WE ALSO WERE LUCKING IN THAT WE

STARTED HAVING A GROUP THAT MET

AND WE THOUGHT OF PEOPLE THAT

WOULD BE INTERESTED IN THIS

TOPIC, BUT WE INCLUDED THE

PROGRAM CHAIRS AND THE DEANS.

AND WE WERE JUST LUCKY THAT WE

DID THAT BECAUSE THERE WAS BUY

IN FROM THOSE FOLKS AS WELL.

THEY COULD SEE KIND OF ON INTO

THE FUTURE THINGS THAT WE HASN'T

THOUGHT B FOR EXAMPLE, YOU'LL

SEE IN 2001, WE WERE AWARDED A

P32 POSTDOC TRAINING FELLOWSHIP.

WE DIDN'T HAVE THAT ON OUR PLATE

BUT IT WAS PART OF THE VISION

THAT ADMINISTRATION HAD.

SO WE HAD BUY IN FROM THE TOP

DOWN AND FROM THE BOTTOM UP KIND

OF AT THE SAME TIME.

WE WENT THROUGH THE CURRICULUM,

DEBAND I IDENTIFIED AREAS WHERE

WE THOUGHT GENETICS MIGHT FIT

THE OBJECTIVES OF THE EXISTING

COURSES AND WENT ON AND WENT

DOOR-TO-DOOR AND TALKED TO

FACULTY.

THIS IS WHAT WE THINK MIGHT BE

USEFUL TO YOU.

WE CAN PROVIDE INFORMATION FOR

YOU.

WHATEVER FITS YOUR NEEDS.

WE HAVE NOT THE SAME COURSES WE

STARTED WITH BUT WE ARE

CURRENTLY -- IDENTIFYING

GENETICS CONTENT IN THE

FOLLOWING COURSES WE HAD

INFORMATION AND WE LOOKED AT THE
ESSENTIALS AND COULD SEE A VERY
NICE FIT FROM THE THINGS WE HAVE
ONGOING.
WE ALSO HAVE AN ELECTIVE HUMAN
GENETICS COURSE I MENTIONED TO
YOU.
OUR STUDENTS CAN TAKE ELECTIVES.
THERE IS ONE SLOT FOR AN
ELECTIVE IN THEIR BACHELORIAT
PROGRAM.
AND THIS ELECTIVE IS TAUGHT BY
SENATOR ON OUR FACULTY.
A GENETIC NURSE AND NURSE
RESEARCHER.
AND SHE HAS MANY YEARS
EXPERIENCING IN GENETIC
COUNSELING.
SO SHE TEACH THIS IS COURSE AND
IT'S TO MAINLY UPPER-LEVEL AND
GRADUATE STUDENTS.
AND WE HAVE STUDENTS FROM ACROSS
THE COUNTRY WHO ARE LOOKING FOR
ONLINE HUMAN GENETICS COURSE
RELEVANT TO NURSING.

THAT'S BEEN A VERY SUCCESSFUL

OPPORTUNITY.

WE ALSO HAVE INDEPENDENT STUDY

AVAILABLE FOR UNDERGRADUATE

GRADES WITH GENETIC CLINICAL AND

RESEARCH FACULTY.

SO PEOPLE WHO ARE ON THE TENURED

TRACK ALSO HAVE RESEARCH

PROGRAMS.

WE ARE IN THE PLACE IN OUR STATE

WHERE THE TERTIARY CARE MEDICAL

CENTER IS LOCATED SO THAT'S

WHERE THE GENETIC PROGRAM IS AND

WE HAVE VERY GOOD PARTNERS, VERY

GOOD FRIENDS AND THE GENETIC

NURSING AND COUNSELING COMMUNITY

AND THE NURSE PRACTITIONERS

COMMUNITY.

PEOPLE WORKING WITH PATIENTS

WITH SIS TICK FIBROSIS AND HEME

FEELIA.

WE HAVE A NICE ARRAY OF PLACES

WHERE STUDENTS MIGHT GET TO HAVE

ADDITIONAL EXPERIENCES.

THAT HAS BEEN ALSO VERY

EXCITING.

IT CREATES A CERTAIN AMOUNT OF

EFFORT ON THE PART OF THE

FACULTY TO HELP STUDENTS

IDENTIFY WHETHER AN INDEPENDENT

STUDY MIGHT BE BUT THE REWARDS

ARE EXCITING BECAUSE OF THE

INTEREST IN THE STUDENTS.

ONE STUDENT THAT I MENTORED AS

AN UNDERGRAD WAS INTERESTED IN

PEOPLE WITH DISABILITIES.

AND I SAID, I KNOW WE HAVE A NEW

DOWN SYNDROME CLINIC AND I KNOW

THAT FAMILIES OVER THERE HAVE A

LOT OF TROUBLE IN COMMUNITY

SERVICES.

HOW WOULD IT IT FEBRUARY A SET

YOU UP WITH A FAMILY WITH A

TODDLER AND A FAMILY WHO HAS AN

ADULT WITH DOWN SYNDROME.

I THINK THEY ARE FACING SOME OF

THE SIMILAR ISSUE AT VERY

DIFFERENT PLACES IN WILL THE

SPAN.

HOW TO WRITE THE WILL TO TAKE

CARE OF THE YOUNG WOMAN WHEN

HERE PARENTS WERE GONE.

HOW TO ACCESS PRESCHOOL.

WHAT HAPPENED TO THIS FAMILY

WHEN THEY WANTED THEIR DAUGHTER

IN GYMNASTICS AS COMPARED TO

WHAT IS HAPPENING TO THIS FAMILY

NOW.

SO THE FAMILIES WERE WILLING TO

DO THAT AND THE STUDENT WROTE A

VERY NICE MILES PER HOUR AND

THIS STANDS OUT IN MY MIND

BECAUSE SHE LEARNED MUCH MORE

THAN SHE THOUGHT SHIELD LEARN

ABOUT THE ISSUES.

NURSES COULD BE DOING TO HELP

PEOPLE FACING VERY SIMILAR

PROBLEMS.

SO I TRIED TO MAKE THE SLIDES

DETAILED.

I'M NOT GOING TO TALK TOO MUCH

ABOUT WHAT'S ON THEM.

BUT I TRIED TO ORGANIZE THEM.

AND HUMAN GROWTH AND DEVELOPMENT

IS A COURSE THAT WE TEACH WITHIN

OUR FACULTY BUT IT IS IN OUR

PRENURSING PROGRAM AND SO I PUT

IT UNDER ESSENTIAL NUMBER 1.

AN ELEMENT OF LIBERAL EDUCATION.

SANDY TEACHES THIS.

WE PROBABLY BEEN THROUGH 3-4

FACULTY.

DIFFERENT PEOPLE ARE TEACHING

THIS COURSE AND HUMAN GROWTH AND

DEPARTMENT ALWAYS CONTAINS

THINGS ABOUT DEVELOPMENT.

THESE ARE THE TYPES OF TOPICS

THAT ARE INCLUDED IN THAT COURSE

AND WHAT SANDY DOESES IN IN

ADDITION TO LECTURE AND THE

ONLINE RESOURCES, SHE USES A

COIN TOSS ACTIVITY WITH STUDENTS

TO ILLUSTRATE THEEL

ADVANCE -- RELEVANCE OF GENOMICS

AND ENVIRONMENTAL FACTORS WHERE

THERE IS VARIABILITY AND IT

HAPPENS TO BE HYPE.

AND SO THAT'S THE ACTION

ACTIVITY THAT SHE BUILT INTO

THAT COURSE.

THERESULTS A TERRIFIC PLACE TO
IDENTIFY THOSE STUDENTS WHO ARE
ESPECIALLY INTERESTED IN
GENETICS AND USUALLY THIS IS IN
OUR CLASSROOM OF ABOUT 200
PEOPLE.
IT'S A COURSE THAT PEOPLE TAKE
TO QUALIFY TO GET INTO NURSING.
SO THERE IS A HIGH INTEREST IN
DOING WELL IN THIS COURSE.
BECAUSE IT'S PART OF WHAT IS
EVALUATED WHEN PEOPLE APPLY TO
THE PROGRAM.
AND THERE ARE ALWAYS PEOPLE WHO
COME UP AFTERWARDS AND SAY I'M
REALLY INTERESTED IN YOU WHAT
SAID ABOUT CANCER.
I'M REALLY INTERESTED IN YOU
WHAT SAID ABOUT NURSES CAREERS
AND SO IT'S AN EXCELLENT WAY TO
START BUILDING ON THAT INTEREST
THAT STUDENTS BRING INTO THE
PROGRAM AND HELPING THEM SEE
WHAT KINDS OF EXPERIENCES MIGHT
BE ESPECIALLY VALUABLE.

SUCH AS THAT ELECTIVE AND THE

INDEPENDENT STUDY AND SOME OF

THE OTHER OPTIONS.

PATHOPHYSIOLOGY SETAUGHT BY SUE

GARDENER AND THAT ALSO I GROUPED

UNDER ESSENTIAL ONE.

THESE ARE THE THINGS SHE

INCLUDES IN HER COURSE.

I HAVE NEVER CONTRIBUTED TO THIS

COURSE.

USUALLY THE PERSON WHO IS

TEACHING THIS IS VERY WELL

ACQUAINTED WITH GENETICS AND

BUILDS IN THE CONTENT ON THEIR

OWN.

WE HAVE ACQUIRED CLICKER

TECHNOLOGY AND SO SHE USES CLICK

TOURS BUILD REQUESTSES WHEN SHE

GOES THROUGH A CONCEPT SUCH AS

TRANSLATION OR RNA.

AND THAT'S HER CHANCE TO GET

FEEDBACK.

SHE CALLS THIS THE NEW

FUNDAMENTAL SO THOSE WHO LEARNED

ON THIS WOULD NO SOME OF THAT IS

NOW IN THIS COURSE AS SHE GOES

THROUGH THE CONTENT IT GIVES

ATTENTION TO HUMAN DIVERSITY AND

VARIATION.

SO WHEN SHE'S TALKING ABOUT

APPLYING SKILLS TO PATIENTS WHO

TALK ABOUT THE INDIVIDUAL.

SO SHE USES EXAMPLES LIKE A

PERSON WHO HAS AN ALLELE AND THE

ISSUES FOR BIRTH CONTROL PILLS

SHE MEANT BRINGS IN

PHARMACOGENETICS AS PART OF THE

STORIES AND CONTENT THAT SHE

TALKS ABOUT WITH HER STUDENTS.

IT MAKES IT A VERY ORDINARY PART

OF NURSING.

IT'S BROUGHT IN AT THE

ENTRY-LEVEL WHEN THEY BEGIN TO

GET THEIR NURSING CONCEPTS AND

SHE BRINGS IN THINGS ABOUT

NEUTRO GENOMICS.

I'M JUMPING TO THE END OF THE

CURRICULUM HERE T JUST HAPPENED

TO OR FALL INTO MY SLIDE

SEQUENCE AT THIS POINT.

LEADERSHIP IS WHAT I'M CALLING

THE COURSE AT THE END OF THE

CURRICULUM AND THAT'S WHERE MUCH

OF OUR ETHICS CONTENT CAN BE

FOUND.

WE HAVE AN ONLINE CONTINUING

EDUCATION PROGRAM THAT YOU WILL

HEAR ABOUT A LITTLE BIT LATER

AND WITHIN THAT THERE ARE SOME

CASE STUDIES THAT WE DEVELOPED

THROUGH SOME FUNDING THROUGH THE

LC PROGRAM.

WE HIRED ACTORS FROM OUR SUMMER

THEATRE PROGRAM AND STUDENTS IN

THE FINE ARTS PROGRAM TO TAKE

THE ROLES OF FAMILY MEMBERS.

CATH IS IN THIS AND SHE DIDN'T

ACT AS ANYBODY EXCEPT HERSELF IN

ILLUSTRATING HOW TO OBTAIN AN

INFORMED CONSENT.

BUT STUDENTS IN THE LEADERSHIP

COURSE CAN GO ONLINE.

THEY CAN CLICK ON ONE OF THESE

CASE STUDIES.

THE CASE STUDIES ARE BUILT

AROUND AN ETHICAL DILEMMA.

THERE ARE VARIOUS COMPONENTS IN

THE CASES.

THERE IS SOME -- MOTHER AND

FATHER AND CHILDREN AND NURSE.

THERE MIGHT BE THE BROTHER AND

THE SISTER AND THERE MIGHT BE

THE PASTOR OR WHOEVER GOES INTO

THAT STORY.

STORIES ARE BUILT WITH NO

RESOLUTION.

NO ONE RESOLUTION THAT WILL

SATISFY EVERYBODY.

THE ETHICS COMMITTEE MAY NOT BE

SATISFIED.

THE PARTNER MAY NOT BE

SATISFIED.

THE TEENAGER IN THE FAMILY MIGHT

BE THE PERSON THAT IS NOT

SATISFIED.

THESE ARE THE ETHICAL DILEMMAS

THAT ARE ILLUSTRATED IN SOME OF

THESE CASES.

WE HAVE WRITTEN UP QUESTIONS FOR

STUDENTS TO ANSWER AFTER THEY

VIEW THE CASE.

IT'S ON THEIR OWN.

WHEN THEY GO ON THE COURSE SITE

AND CHOOSE A CASE.

LOOK AT IT, GO THROUGH THE

EXERCISE AND ANSWER THE

QUESTIONS AND TURN THOSE IN TO

HOWARD BUTCHER.

THE COURSE DIRECTOR AND THEN HE

GRADES IT LIKE A QUIZ.

AND HE IS ALSO USED SOME OF THAT

INFORMATION IN BUILDING SHORT

ANSWER QUESTIONS ON HIS EXAM.

SO ETHICS IS PART OF ALL OF OUR

CURRICULA.

WE CHOOSE TO USE SOME CLINICAL

EXAMPLES THAT REVOLVE AROUND

CURRENT CLINICAL SITUATIONS

INVOLVING GENETICS AND GENETIC

TESTING.

THERE ARE THINGS THAT COME OUT

OF ESSENTIAL 5 AND 6 THAT ARE

PART OF THE CONTENT THAT WE

DELIVER.

IT'S NOT REALLY A LECTURE BY

ITSELF.

BUT WHENEVER I'M TALKING WITH

UNDERGRADUATE STUDENTS I'M

MENTIONING THINGS ABOUT

DISPARITIES AND HEALTH CARE.

ESPECIALLY IN THE AREAS THAT I

KNOW SOMETHING ABOUT WHICH IS

ACCESS TO GENETIC TESTING,

GENETIC LITERACY, THE WAYS THAT

FAMILY MEMBERS MIGHT SHARE

INFORMATION WITH EACH OTHER AND

SO I'M GOING GIVE YOU AN EXAMPLE

ABOUT HOW I BRING THAT IN TO A

CLASS THAT I GIVE IN OUR

COMMUNICATIONS COURSE.

WE ALSO THEN ALSO BRING UP

INFORMATION ABOUT REFERRALS AND

COMMUNICATION WITH HEALTH CARE

RESOURCES.

IF NURSES ARE GOING TO PRACTICE

IN THE STATE OF IOWA, I TELL

THEM ABOUT THE REGIONAL GENETIC

CLINICS AND HOW PEOPLE CAN

RECEIVE HEALTH CARE, GENETIC

HEALTH CARE THROUGH SPECIALTY

SERVICES AND A TALK TO THEM

ABOUT NEWBORN SCREENING AND HOW

EACH STATE WILL IMPLEMENT THAT

IN A DIFFERENT WAY.

AND REMIND THEM HOW TO FIND THAT

INFORMATION IF MAN OF THEM DO

MOVE OUT OF THE STATE.

NURSES WHO BECOME EDUCATED IN

IOWA, REALLY LIKE TO SEE THE

MOUNTAINS FOR A LITTLE WHILE IN

COLORADO AND SO OFTEN THEY ARE

GOING OFF AND THEN THEY'LL COME

BACK TO IOWA.

MANY WHEN THEY GET ALONG LATER

IN THEIR CAREERS.

SO THESE THINGS APPEAR IN THE

INFORMATION WE BRING TO

STUDENTS.

IT ISN'T UNDER NECESSARILY A

GENETICS UMBRELLA OR LABELED AS

SUCH IN THE COURSE BUT IT IS

ILLUSTRATED IN EXAMPLES IN THE

CONTENT THAT WE GIVE.

ESSENTIAL 7 IS WHERE YOU FIND

THE INFORMATION ABOUT

ASSESSMENT, A FAMILY HISTORY

ASSESSMENT, HOW TO CONDUCT A

HEALTH HISTORY.

AND SO SANDY TEACH THAT IS IN

THE IN INTRODUCTORY LEVEL

COURSE.

AND JUST AS WE HAVE HEARD FROM

MANY OTHER PEOPLE, IT IS THE

ELEMENTS OF HOW TO CONDUCT A

FAMILY MEDICAL HISTORY,

INCLUDING A GENETIC HISTORY.

BUT IT'S NOT LIMITED TO THAT

CERTAINLY.

PEDIGREE AND CONSTRUCTION SIMPLE

PEDIGREE INTERPRETATION.

AND AGAIN, WHEN TO MAKE A

REFERRAL.

JEAN MENTIONED THE FAMILY

HISTORY CONSENSUS CONFERENCE AND

ONE OF THE THINGS YOU'LL FIND IF

YOU GO OUT AND LOOK AT THAT

DOCUMENT IS OUR EVIDENCE BASE

FOR THE CLINICAL UTILITY OF

GENETIC FAMILY HISTORY IS VERY

THIN.

IT'S SOMETHING WE HAVE

ALL -- IT'S BEEN AN ELEMENT OF

HEALTH CARE AND MEDICAL CARE AND

NURSING CARE FOR AS LONG AS

ANYBODY CAN TRACE BACK.

SO IT EXISTS LONG BEFORE ANYONE

THOUGHT OF THE TERMS EVIDENCE

BASE PRACTICE OR EVIDENCE BASE

MEDICINE.

BUT WHEN LOOKING AT OUR

EVIDENCE, WE DON'T HAVE AN

ORGANIZED BODY OF KNOWLEDGE ON

HOW TO DO IT WELL.

WAWORKS WITH PARTICULAR

CULTURES.

WHAT ARE THE WAYS TO ASSIST

FAMILY MEMBERS WHO ARE NOT FROM

THE DOMINANT CULTURE TO ACCESS

AND COMMUNICATE INFORMATION.

WHAT DOES THE TERM FAMILIAR BEE

MEAN IN VARIOUS SET SOMETHING

THOSE ARE ALL AREAS WE DON'T

HAVE A LOT OF EVIDENCE TO GUIDE

US.

WE HAVE ALL OF OUR TRADITIONS.

SO, WE TALK WITH STUDENTS ABOUT
THIS AND AGAIN TRY TO EMPHASIZE
WITH THEM WHEN WE GET TO
PEDIGREE AND INTERPRETATION AND
MAKING REFERRAL FOR EXAMPLE, BUT
THERE ARE PEOPLE MANY PEOPLE
WILL HAVE, IF I ASK YOU TO RAISE
YOUR HANDS, IF THERE IS A FAMILY
HISTORY OF HEART DISEASE OR
CANCER OR MEMORY LOSS IN YOUR
FAMILY, OR HYPERTENSION OR
DIABETES, PRETTY SOON
EVERYBODY'S HANDS WOULD BE UP
BECAUSE THESE ARE COMMON COMPLEX
CONDITIONS.
WITHIN EACH OF THOSE CATEGORIES
THEY ARE GOING TO BE SUB SETS OF
FAMILIES THAT HAVE PARTICULAR
RISKS BASED ON A HIGHER
COMPONENT OF GENETIC RISK IN
THAT PARTICULAR FAMILY.
WE WANTED TO GET A SENSE OF
THAT.
SO WHEN THEY HEAR A STORY FROM
AN INDIVIDUAL AND IT'S MANY

FAMILY MEMBERS WITH EARLY ONSET
CANCER FOR EXAMPLE, THAT'S A RED
FLAG THAT SHAY SHOULD BE PAYING
ATTENTION TO AND BE THINKING
ABOUT WHAT TO SAY TO THAT FAMILY
ABOUT WHAT INFORMATION HAVE THEY
HAD?
REMEMBERED THEY LIKE TO HAVE.
DO THEY KNOW ABOUT THE
RESOURCES?
THIS COURSE IS PAIRED WITH A
COURSE ON COMMUNICATION SKILLS.
AND I VOLUNTEERED TO GIVE A
PRESENTATION IN THIS A LONG TIME
AGO THAT WOULD BUILD ON THE
ASSESSMENT COURSE BUT THEN TALK
ABOUT HOW THE NURSE WOULD USE
THESE NEW COMMUNICATION SKILLS,
WHAT I LEARNED ONCE AS ACTIVE
LISTENING, THERAPEUTIC
COMMUNICATION.
WHEN YOU YOU'RE TALKING ABOUT
SENSITIVE INFORMATION WITH
FAMILIES, SO I CONTINUE WHAT WAS
INTRODUCED IN THE HEALTH

ASSESSMENT COURSE AND NOW I TELL

THEM SOME STORIES.

I HAVE 3 FAMILIES.

I HAVE PHOTOGRAPHS THAT PEOPLE

HAVE GIVEN ME PERMISSION TO USE.

I TELL THEM ABOUT THE FAMILY

STORIES AND I SAY WE GO THROUGH

WHAT ARE THE ELEMENTS OF

THERAPEUTIC COMMUNICATION AND WE

HOOS O. USE THOSE STORIES TO

ILLUSTRATE WHAT IS IT WHEN THEY

ARE IN DENIAL OR ANGER?

I ASK STUDENTS HOW MANY TIMES

HAVE YOUR PATIENTS BECOME ANGRY

WITH YOU?

WHAT WILL HAPPEN WHEN -- WHAT IS

YOUR RESPONSE?

WHAT DO I DO WHEN THAT HAPPENS?

WHAT ABOUT DENIAL?

WHEN YOU WANT PEOPLE TO

UNDERSTAND SOMETHING, THEY ARE

JUST NOT GOING FOR IT.

AND I GIVE THEM THE EXAMPLE.

ONE OF MY STORIES IS ABOUT

FRAGGIC X SYNDROME.

I SHOW THEM THE FAMILY PICTURE

AND I TELL THIS IN THIS FAMILY

THE REASON THOSE YOUNG MEN HAVE

LEARNING PROBLEMS WAS BECAUSE

THEIR GRANDMOTHER WRAPPED THEM

TOO WARMLY.

AND THEY GOT OVERHEATED.

AND THAT IS THE TRUE STORY IN

THAT FAMILY.

AND NO MATTER WHAT YOU YOU WHAT

SAY AS A NURSE, IT'S NOT GOING

TO CHANGE.

THAT'S THE FAMILY STORY.

AND THEN I GO ON TO TELL THEM

HOW WITH -- THE MOTHER BECAME

ACQUAINTED WITH ME.

SHE SAID TO ME ONE DAY, I HAVE

BEEN READ BEING FRAGILE X AND I

THINK OUR FAMILY FITS.

I'M NOT BUYING THIS THING ABOUT

GRANDMA WRAPPING THE BABIES TOO

TIGHT.

AND I SAID, WELL, I THINK YOU

MAKE A REREALLY GOOD POINT HERE

AND THERE ARE PEOPLE HERE THAT

COULD HELP YOU FIND ANSWERS TO

YOUR QUESTIONS.

I DON'T KNOW WHAT THE ANSWERS

WILL BE.

SO SHE WAS AMONG THE FIRST WHO

DID INVOLVE HERSELF IN SOME OF

THE RESEARCH ON INJECTION OF THE

GENE FOR FRAGILE X SYNDROME AND

IT WAS WHAT WAS GOING ON IN THE

FAMILY.

WE TALK ABOUT WHAT KINDS OF

RESPONSES CAN YOU AS A NURSE

GIVE WHEN YOU ENCOUNTER

SOMETHING THAT DOESN'T QUITE

MAKE SENSE BUT YET THERE IS SOME

RESISTENCE.

SO AS WE GO THROUGH THIS ONE

HOUR-LONG PRESENTATION THAT I

MAKE, I TALK ABOUT STIGMA.

I TALK ABOUT PRIVACY.

I CREATE A STORY ABOUT FAMILIES

WITH COLON CANCER AND THE WORD

COLON IS NOT MENTIONED IN THAT

FAMILY AND THEN I TALK ABOUT THE

AREA THAT I AM MOST FAMILIAR

WITH, HUNTINGTON DISEASE.

EVEN THOUGH IT'S RARE, IT BRINGS

UP A LOT OF ISSUES ABOUT

PSYCHIATRIC ILLNESSES.

STIGMATIZING BEHAVIORS THAT ARE

NOT ACCEPTABLE WITHIN AND

OUTSIDE OF A FAMILY.

THINGS ABOUT FAMILY SECRETS AND

FAMILY METHODS AND THEN AT THE

END OF THE CLASS I LEAVE ABOUT

10 MINUTES AND BY THEN THE

STUDENTS HAVE WRITTEN DOWN ALL

THE THERAPEUTIC COMMUNICATION

SKILLS AND ALL OF THE ELEMENTS

OF WHAT PEOPLE MIGHT DO AND WHAT

THEY ARE SUPPOSED TO DO IN

RESPONSE.

AND I SAY NOW, THIS THIRD OF THE

ROOM, YOU TURN TO THE PERSON

NEXT TO YOU, YOU'RE GOING TO BE

A PAIR.

ONE IS A NURSE, ONE IS THE

PATIENT.

THIS IS WHERE YOU'RE THINKING

ABOUT COLON CANCER.

THIS IS THE FRAGILE X AND WE'RE
GOING TO TALK ABOUT REFRUCTIF
ISSUES HERE AND THIS IS THE
GROUP THAT WOULD PAY ATTENTION
TO THE RISK FOR HUNTINGTON
DISEASE.
AND I ASK THE PATIENT IN THE
PAIR TO COME UP WITH A
COMMUNICATION BEHAVIOR.
THEY ARE GOING TO CHALLENGE
THEIR NURSE IN SOME WAY.
THEY ARE GOING TO BE ANGRY AND
IN DENIAL OR VERY SAD.
THEY ARE JUST GOING TO BE
TOTALLY IN INFORMED AND CLUELESS
ABOUT IT AND THEN THE OTHER PART
OF THE PAIR IS THE NURSE.
SO THE NURSE WILL HAVE TO
RESPOND TO WHATEVER THEIR
PARTNER'S BEHAVIOR IS.
GIVE THEM A FEW MINUTES AND THEN
THEY WRITE DOWN FOR ME WHAT THEY
DID.
WHAT NURSING -- WHAT WAS THE
BEHAVIOR OF THIS PATIENT.

WHAT THERAPEUTIC SKILLS WOULD BE

APPROPRIATE.

WHAT THE NURSE TRIED.

THE PATIENT GIVES A LITTLE

FEEDBACK.

HOW WELL DID HIS OR HER PARTNER

DO AND THEN THEY TURN THOSE IN.

VERY INSTRUCTIVE FOR ME TO READ

THEM.

IT GIVES ME A SENSE WHAT HAVE

DID THEY GET OUT OF THE LECTURE.

AND ALSO FACULTY KNOWS WHO WAS

IN CLASS THAT DAY.

WE HAVE THOSE BLITZ OF

INFORMATION AND FEEDBACK FROM

THE STUDENT.

I MENTIONED THE HONORS

INDEPENDENT STUDY AND I HAVE

ALREADY DESCRIBED THIS FOR YOU

THAT WE DO TRY TO SET THIS UP.

IT'S VERY POPULAR.

AND WE COULD PROBABLY TAKE MORE

IF WE HAD MORE FACULTY WHO COULD

TAKE THESE STUDENTS OR THE

CLINICAL FACULTY.

STUDENTS WHO WANTED TO HAVE
EXPERIENCE WITH PSYCHE MENTAL
HEALTH AND GENETICS ISSUES.
I HAD STUDENTS -- A STUDENT WHO
WAS INTERESTED IN TURNER
SYNDROME AND SOME OF THE
BEHAVIORAL ISSUE THAT IS
FAMILIES FACED AND DEBWAS ONE OF
OUR PRESIDENTIAL SCHOLARS AND
SHE WROTE A PUBLISHABLE PAPER ON
THAT.
WE HAVE A YOUNG SCIENTIST
PROGRAM AT OUR UNIVERSITY FUNDED
BY AN ALUM AND IT IS AN EFFORT
TO IDENTIFY THOSE STUDENTS WHO
ARE ESPECIALLY PROMISING AS FAR
AS DEVELOPING A RESEARCH CAREER
AND MOVING ON TO NURSING
RESEARCH AND STUDENTS COMPETE
FOR THIS AND THEN ASSIGNED TO
FACULTY.
SO SOME OF US RECEIVE THESE
MATCHES WITH STUDENTS AND I HAD
A YOUNG SCIENTIST STUDENT ADDS
AN UNDERGRAD JOIN MY RESEARCH

TEAM, CONDUCT A LITERATURE

REVIEW, DID HELPING US WITH A

SURVEY CONSTRUCTION, ON

HUNTINGTON DISEASE AND THEN SHE

GOT TO PRESENT THIS TO ISWUNG A

POSTER.

WE REALLY INTRODUCED HER TO THE

WORLD OF SCIENTIFIC INQUIRY.

AND SHE HAS GONE ON TO HAVE A

CAREER AS A RESEARCH

COORDINATOR.

THIS IS SOMETHING THAT DIDN'T

WORK SO WELL SO I'M GLAD I PUT

THIS IN.

WE HAVE GENETICS JOURNAL CLUB

AND WE HAVE THIS PRIMARILY FOR

OUR DOCTORAL AND POSTDOC

STUDENTS.

WE THOUGHT FACULTY WOULD BE

REALLY ENTHUSED ABOUT COMING AND

YOU KNOW WHAT?

THEY WEREN'T.

THEY DON'T COME AND FACULTY ARE

VERY BUSY AND WHAT WE DO IN

JOURNAL CLUB IS WE REALLY TRY TO

PUSH PEOPLE'S ANALYTIC CRITICAL

THINKING ABOUT WHAT IS PUBLISHED

IN THE LITERATURE AND SOME

FACULTY FIND THAT MORE OR LESS

INTERESTING I'LL JUST VERY

QUICKLY MENTION WHAT ELSE IS

GOING ON BECAUSE I THINK THAT'S

ONE OF THE KEYS TO SUCCESS FOR

US IS THAT GENETICS IS PART OF

THE PACKAGE AT IOWA.

IT'S ALMOST LIKE A BOOK END.

IT'S PRENURSING ALL THE WAY

THROUGH THE POSTDOC AND THEN

INTO THE FACULTY.

SO WE HAVE A PRIMARY CARE COURSE

FOR OUR NURSE PRACTITIONERS.

I DEVELOPED THAT COMPONENT WHERE

STUDENTS USE CASE STUDIES THAT

WERE PUBLISHED IN CONTEMPORARY

PEDIATRICS.

LITTLE SNIPPETS OF CLINICAL CASE

THAT IS NURSE PRACTITIONERS

REMEMBERED OR PHYSICIANS WOULD

GO THROUGH WHAT IS THIS?

WHAT IS THE DIAGNOSIS?

I HAVE A LECTURE SERIES OR SET

THAT GOES ONLINE FOR THE COURSE

AND THEN WHEN WE LEAD IN CLASS,

I ASK THEM TO DISCUSS THEIR

CASES AND PRIORITIZE WHAT THEIR

CLINICAL DECISIONS WOULD BE.

WHAT ARE YOU GOING TO ATTEND TO

FIRST?

WHEN YOU DO THAT, WHAT IMPACT

DOES THAT HAVE ON THE REST OF

THE FAMILY?

FOR EXAMPLE, THERE IS A TEENAGER

THAT LOOKS LIKE HE

HAS -- SYNDROME.

WHAT WILL YOU DO FIRST?

THINK ABOUT CARDIOLOGY OR

PARTICIPATION IN SPORTS?

ARE YOU GOING TO THINK ABOUT THE

REST OF THE FAMILY AND THEIR

RISK FOR IT?

IT'S A RICH DISCUSSION WITH A

NURSE PRACTITIONERS STUDENTS.

THE OTHER THING WE DO IS WE MAKE

SURE EVERY NURSE PRACTITIONER

STUDENT IN THIS COURSE SPENDS A

FEW HOURS IN OUR GENETICS

PROGRAM OR WITH AN ADVANCED

PRACTICE NURSE WORKING IN AN

AREA WHERE THEY APPLY GENETIC

KNOWLEDGE.

MAYBE THE HEME FEELIA CLINIC FOR

EXAMPLE.

WE HAVE TWO ONLINE COURSES

AVAILABLE AT THE MASTERS LEVEL

OR THE GRADUATE LEVEL.

AND THESE ARE TAUGHT BY SANDRA

DARK HEMP.

THESE ARE ALSO RESOURCES FOR

YOU.

IF YOU ARE INTERESTED IN A

GRADUATE LEVEL COURSE WE NOW CAN

OFFER THEM FOR VARIABLE CREDIT.

SO EACH TOPIC IS WORTH ONE

CREDIT HOUR AND IT IS OFFERED

THROUGH OUR DISTANCE LEARNING

PROGRAM ON CAMPUS.

PEOPLE WHO TAKE THIS ARE MASTER

STUDENTS.

SOME ARE OUR POSTDOCS ARE

INTERESTED IF THEY ARE MISSING

CERTAIN COM PONEINENTS THEIR OWN

BACKGROUND.

WE HAD FACULTY FROM AROUND THE

COUNTRY TAKE THIS AND ALSO HAD

CLINICIANS.

WE HAD A NURSE WHO WENT FROM THE

ICU TO A METABOLIC CLINIC.

THAT'S A BIG LEAP IN YOUR

CLINICAL PRACTICE.

AND SHE WANTED TO PREPARE

HERSELF FOR THAT CHANGE.

LIKE MANY PLACES WE HAVE A DMP

PROGRAM AND A GENETICIST.

EMERGING SCIENCE COURSE.

KEN TEACH THAT IS AND SOME OF

THE CONTENT HE SELECTED.

SANDY GIBBS PRESENTATION ON

AGING AT OUR PHD COURSE.

GERONTOLOGY A MAJOR EMPHASIS AT

OUR UNIVERSITY AND THESE ARE THE

KINDS OF TOPICS THAT SANDY

INFLUENCED.

AND ALSO AT OUR PHD LEVEL WE

HAVE THIS SEMINAR AND I

COLLABORATED WITH JULIE SO WE

HAVE STUDENTS FROM CLEMSON THAT
COME IN TO DO DISTANCE LEARNING
AND OTHER STUDENTS FROM OTHER
UNIVERSITIES OFTEN PEOPLE WHO
ARE PLANNING A DISSERTATIONING
ON A GENETICS TOPIC AND THEY
WANT TO BE IN A SEMINAR COURSE
EXAMINING THE LITERATURE.
SO, WHAT HAPPENS OR WHAT IS
CONTINUING TO HAPPEN WITH US IS
WE STARTED OUT AND CONTINUE TO
COLLABORATE WITH COURSE FACULTY.
THIS WAS THAT DOOR-TO-DOOR
ONE-TO-ONE COMMUNICATION WITH
OUR COLLEAGUES.
WHAT CAN WE DO TO CONTRIBUTE TO
YOUR COURSE?
WHAT FITS WITH YOUR COURSE?
WE PROVIDE RESOURCES, OURSELVES
OR MATERIALS OR SOMETIMES THOSE
ETHICS CASE STUDIES, HOWARD USES
THEM AS HE WISHES.
WE V. STUDENTS THAT ARE
INTERESTED.
THAT'S A BIG BENEFIT.

AS WAS MENTIONED PREVIOUSLY,

THIS IS NOT NEW TO STUDENTS.

THEY ARE NOT DAUNTED BY THE

TOPIC AND IT WETS THE APPETITE,

ESPECIALLY THESE EARLY COURSE

ARE FOR STUDENTS WHO ARE REALLY

INCLINED TO ENJOY LEARNING MORE

ABOUT SCIENCE AND HOW YOU APPLY

IT TO HUMAN HEALTH ISSUES.

WE HAVE THE ADVANCED PRACTICE

AND GENETICS OPPORTUNITIES SO

THAT DOES LEAD SOMETIMES PEOPLE

ON INTO A CAREER PATH THEY

HASN'T CONSIDERED.

SEVERAL FACULTY COMPLETED THE

SGI.

WHAT STARTED OUT AS TWO FACULTY,

WE HAVE A NUMBER OF PEOPLE WHO

GET IT AND THEY GET IT AND APPLY

IT IN DIFFERENT WAYS.

THAT'S VERY HELPFUL.

SANDY AND MARTH AREA CONDUCTING

A FACULTY SURVEY ON THE NEEDS

AND GENOMIC NURSING AND

EDUCATION ON ASSESSING GENOMIC

NURSING EDUCATION IN FACULTY AND

STUDENTS AND ONE OF OUR RESEARCH

SCIENCE STUDENTSSHIPPING WITH

THAT.

WE PARTNER WITH THE FACULTY THAT

I ALREADY MENTIONED.

IT'S ACROSS OUR ENTIRE

CURRICULUM.

IT'S PART OF THE RESEARCH

CONDUCTED BY MANY FACULTY.

WE HAVE A NETWORK OF CLINICAL

PARTNERS AND WE HAVE BEEN

THROUGH 3 DEANS SINCE 95 AND

THEY FOUND THIS TO BE A

IMPORTANT PART OF OUR PROGRAM

WHEN I FIRST STARTED MEETING THE

PEOPLE ALONG THE WALL, WE

WORRIED ABOUT DEAN AND HOW TO

GET DEAN BUY INS AND THEN WE

REALIZED THEY WERE FAR AWAY IN

WHAT HAPPENS TO THE DAY-TO-DAY

REALM OF EDUCATION, YET THAT

DEAN ENDORSEMENT IS A VERY

POWERFUL ENDORSEMENT BECAUSE IT

BRINGS ATTENTION TO THE PROGRAM.

TELL HELPS ELEVATE THE

IMPORTANCE IN THIZE OF THE

FACULTY AND STUDENTS.

I WHOLE HEARTEDLY ENDORSE

ALLEN'S COMMENTS.

PARTNERSHIP IS KEY TO LONG TERM

SURVIVAL.

SO YOU HAVE GOT PARTNERSHIP

RIGHT HERE AND I'M GLAD SOMEBODY

MENTIONED ISONG.

THAT'S A WONDERFUL PLACE TO GET

RENEWED AND GET YOUR BATTERIES

RECHARGE WHEN YOU GET WORRIED

ABOUT HOW THIS IS ALL GOING TO

FIT TOGETHER.

SO I'LL BE HERE UNTIL 4:00 WHEN

I HAVE TO CATCH A RIDE TO THE

AIRPORT AND I WOULD BE DELIGHTED

TO ANSWER QUESTIONS YOU MIGHT

HAVE.

[APPLAUSE]

>> SO, EVERYBODY KNOWS WE WILL

GO INTO A NICE LONG NIGHT,

REALLY AND TRULY.

MOST OF THE PEOPLE HERE I KNOW

YOU.

EVERY ONE OF US.

I CAN'T THINK OF HOW WE WOULD

HAVE DONE WHAT WE HAVE DONE

THROUGH ISONG.

IF YOU HAVEN'T THOUGHT ABOUT IT

YOU NEED TO THINK ABOUT IT

BECAUSE THIS IS AN ONGOING

JOURNEY FOR YOU.

IT'S NOT A ONE TIME EVENT WHERE

YOU'RE GOING TO GO AND DO A

PROJECT AND BE THROUGH IN 6

MONTHS OR A YEAR.

HAVE ANY OF YOU GUYS EVER SEEN

THE 5 MINUTE UNIVERSITY ON

YOUTUBE?

ALL OF OUR DEANS WERE TALKING

ABOUT IT AND I HAD TO LOOK AT

IT.

IT'S REALLY FUNNY.

THIS GUY STANDS UP AND GOES, I

CAN GIVE YOU A DEGREE IN 5

MINUTES.

FOR 20 DOLLARS.

BECAUSE WHAT I'M GOING TO TELL

YOU IS WHAT YOU'RE GOING TO

REMEMBER.

IF YOU ARE POLITICAL SCIENCE

MAJOR.

AND HE HAS TWO SENTENCES.

AND HE GOES THROUGH ALL OF THE

DISCIPLINES LIKE THIS AND HE

SAYS, ONE MINUTE MORE, IF YOU

WANT A DEGREE IN LAW.

[LAUGHTER]

SO I GUESS WHAT THAT SAYS TO ME

IS, JUDY I THINK YOU MENTIONED,

WE HAVE TO TEACH STUDENTS HOW TO

LEARN.

AND WHAT YOU'RE GOING TO FIND IN

GENETICS -- AND IF ANY SCARES ME

IT'S THAT I'M NOT KEEPING UP.

BECAUSE WE ARE VERY BUSY.

AND SO WE ARE BUSY MANAGING AND

TEACHING AND DOING RESEARCH AND

EVERYTHING ELSE AND MY ONLY FEAR

IS, I WONDER WHAT WAS PUBLISHED

IN THE LAST TWO MONTHS I HAVEN'T

READ.

SO WHEN YOU THINK ABOUT

GENETICS, YOU HAVE TO THINK

ABOUT, THIS IS A LONG-TERM

COMMITMENT NOT TO JUST DOING A

COURSE BUT TO BE CREATING A

COURSE THAT COULD BE USED

EFFECTIVELY.

SOMEONE SAID HERE THAT THEY

TAUGHT ANATOMY AND PHYSIOLOGY

FOR SO MANY YEARS.

WHO WAS THAT?

KATHY.

HOW LONG DID YOU TEACH THAT?

IT DOESN'T CHANGE.

GENETICS IS NOT THAT COURSE.

IF THAT'S THE TYPE OF TEACHING

YOU LIKE, GENETICS IS NOT THE

THING FOR YOU.

I'M GOING TO TALK A LITTLE BIT

ABOUT THIS.

JANET COULD HAVE TALKED ABOUT

SHARED COURSE WEAR.

YOU WHAT SHOULD GET FROM WHAT

JAN SET TALKING ABOUT AND WHAT

I'M TALKING ABOUT IS ARE THERE

OTHER RESOURCES TO OTHER

UNIVERSITIES THAT HAVE ALREADY

DONE THIS?

AND THEY MAY BE AVAILABLE TO YOU

AND THEY MAY NOT.

AND THEY MAY BE AVAILABLE FOR

SOME STUDENTS BUT NOT FOR ALL

STUDENTS.

SO THINK THAT AS YOUR BEGINNING

WHEREVER YOU ARE TO LOOK AT ALL

THE RESOURCES.

OTHER INSTITUTIONS AND RESOURCES

THAT ARE ON THE WEB.

BECAUSE IT WAS ALREADY SUGGESTED

TODAY THAT DATA AND RESEARCH

DONE BY NIH SUPPORTED EFFORTS

BELONG TO ALL OF US.

SO YOU CAN SNATCH THOSE NCI

SLIDES BECAUSE THEY ARE

BEAUTIFUL.

SO, LET ME GO ON TO LOOK AT

THIS.

OKAY.

EVERYBODY DOES THIS DIFFERENTLY.

I GRADUATED IN 2000 WITH MY

DOCTORATE AND I DID A POSTDOC IN

GENETICS.

AND BUT THAT'S SOMETHING WE

WEREN'T REALLY INTO GENETICS.

IN FACT, THE MAIN THING I HEARD

WAS, DIABETES HAPPENS ACROSS

POPULATIONS BUT WE DON'T HAVE A

COURSE ON DIABETES.

I THOUGHT, THAT'S TRUE.

YOU KNOW, THAT'S TRUE.

AND I WASN'T CONVINCED THAT I

HAD TO TELL EVERYBODY THAT

GENETICS WAS THE WAY THINGS WERE

GOING TO GO.

AND I THINK ONE OF THE ISSUES

YOU MIGHT HEAR IS PEOPLE SAY, I

KNOW YOU THINK EVERYTHING IS

GENES.

NOT THAT WE THINK EVERYTHING IS

GENES, WE THINK IF YOU

UNDERSTAND YOUR GENETIC

PREDISPOSITION, YOU MAY

UNDERSTAND WHAT THE OR HOW THE

ENVIRONMENT AFFECTS YOUR HEALTH.

AND THAT -- WHEN I TELL PEOPLE

THAT THEY SEEM TO BE MORE OPEN.

I'M NOT JUST -- I HAVEN'T GIVEN

AWAY NURSING AND THOUGHT, ONLY

AS A SCIENTIST.

AND I THINK YOU NEED TO THINK

THAT WHEN YOU GO BACK AND TALK

TO YOUR FACULTY.

SO WHAT I DID WAS, PEOPLE WOULD

HAVE ME LECTURE IN THEIR

CLASSES.

I'M SURE YOU HAVE ALL DONE THAT.

I STILL LECTURE IN SOME OF THOSE

CLASSES AND THEN THE FACULTY MS.

ALONG AND OURS ARE PRETTY

SOPHISTICATED.

A EP LOT ARE IN ONCOLOGIY WITH

MD ANDERSON AND HAVE A PRETTY

GOOD BACKGROUND IN GENETICS.

CHECK OUT YOUR FACULTY AND SEE

WHAT THEY KNOW.

THEY KNOW MORE THAN YOU THINK

THEY DO.

ALL THE NURSING SOCIETIES ARE

TEACHING GENETICS AS IT APPLIES

TO THEIR DISCIPLINE.

SO, MY MANTRA IN LIFE IS -- AND

I DON'T KNOW WHY IT IS, KILL TWO

BIRDS WITH ONE STONE.

I DON'T LIKE TO KILL BIRDS.

BUT MAKE THINGS REALLY

EFFECTIVE.

SO, WITH WE -- I WAS ASKED TO

DEVELOP A PROGRAM FOR THE DMP

STUDENTS.

THE DOCTORAL OF NURSING

PRACTICE.

I THOUGHT, THAT WILL BE REALLY

GREAT.

WE WILL DO THIS.

BUT, WHEN WE TALK ABOUT SHARED

COURSE WEAR, YOU CAN EVEN SHARE

IT IN YOUR INSTITUTION.

BEFORE PEOPLE WOULD COME AND

THEY WOULD SAY I'M A MASTER

STUDENT, CAN I TAKE THAT?

THEY COULDN'T.

NOW WE THINK WHY NOT?

WHY NOT AS AN ELECTIVE?

IF THEY ARE A MASTER STUDENT,

WHY COULDN'T WE KIND OF MAKE A

BASIC CLASS THAT WE COULD APPLY

ACROSS OUR CURRICULUM?

TO SOME EXTENT, WE HAVE DONE

THAT.

SO WE DEVELOPED AN UNLINED

GENETIC COURSE AND THE DMP

PROGRAM WAS EMERGING

TECHNOLOGIES.

SO I ALSO HAVE TWO HOURS OF THE

GENETIC COURSE THAT CAN STAND

ALONE.

THAT'S KILLING TWO BIRDS WITH

ONE STONE.

AND THEN, WHEN I ADD IT TO THE

DNP COURSE, I HAVE LECTURES

WHERE PEOPLE TALK ABOUT STEM

CELLS.

THEY TALK ABOUT PROTEOMICS, THEY

TALK ABOUT OTHER THINGS THAT ARE

NOT NECESSARILY RELATED TO

GENETICS.

AND YOU HAVE TO REMEMBER THERE

IS A BIG DIFFERENCE IN STUDENT

POPULATION.

SO I KNOW YOU'RE FROM ALL OVER

THE COUNTRY.

AND WE HAVE STUDENTS THAT ARE

EVEN DNP STUDENTS.

YOU THINK THEY ARE VERY

SOPHISTICATED AND THEY ARE NOT.

THEY COME AND THEY SAY, YOU

KNOW, I COULDN'T HANDLE THE

TECHNOLOGY SO I DROPPED IT.

AND I'M NOT TALKING ABOUT

SOPHISTICATED TECHNOLOGY, I'M

TALKING ABOUT CLASSES THAT ARE

BROADCAST FROM OUR UNIVERSITY

THAT GO TO ANOTHER ONE.

SO I THINK REALLY WHEN YOU START

TALKING ABOUT THESE TEACHING

METHODS LIKE BLACK BOARD, IT

SOUNDS SIMPLE TO US.

IT IS NOT TO NEW STUDENTS.

IT'S NOT TO THOSE DOCTORAL

PREPARED STUDENTS OR MASTERS

PREPARED STUDENTS.

AND ON SECOND DEGREE STUDENTS.

SO WE HAVE TO THINK ABOUT THAT.

SO, WE STARTED OUR FORMAL

GENETICS COURSE AND I REALLY

LIKE DOING THAT.

I LIKE FOCUSING INITIAL 01

POPULATION.

ON ONE STUDENT POPULATION.

YOU MAY NOT DO THAT.

YOU MAY GO BACK AND JUST DECIDE

TO INTEGRATE IT ACROSS THE

CURRICULUM.

WE HEARD BOTH WAYS.

BUT YOU DON'T HAVE TO DO IT ALL

IF IT'S ALREADY BEEN DONE.

FIND OUT WHAT HAS BEEN DONE.

WE STARTED WITH 16 STUDENTS AND

ALL FROM ALL AROUND TEXAS IN THE

NEIGHBORING STATES.

SO, ONE OF THE THINGS YOU HAVE

TO REMEMBER WHEN YOU'RE

DESIGNING A CLASS LIKE THIS IS

PEOPLE HAVE GENETIC PROBLEMS IN

THEIR FAMILIES, RIGHT?

THEY ARE STILL PEOPLE EVEN

THOUGH THEY ARE NURSING STUDENTS

AND A LOT OF TIMES YOU'RE GOING

TO HAVE STUDENTS MAYBE FACULTY

COME TO YOU BECAUSE THEY HAVE

BEEN TOUCHED PERSONALLY BY WHAT

YOU'RE SAYING.

AND YOU CAN'T ALWAYS DO THAT

WHEN YOU'RE WORKING ON A

WEB-BASED COURSE.

SO THAT'S A DRAWBACK.

SO,

I THINK THIS IS NOT THE

PRESENTATION I BROUGHT.

BUT THAT'S OKAY.

WE'RE GOING TO GO WITH IT.

THAT'S OKAY.

I CAN JUST WING IT.

>> I CAN CHANGE IT.

I'M THINKING I'M GOING CRAZY.

>> SO THIS COURSE WAS DEVELOPED

FOR THE SREB.

ANYONE FAMILIAR WITH THAT.

ARE ANY OF YOU FROM TEXAS OR

SOUTHERN STATES?

I HAVE A LIST OF SOUTHERN STATES

HERE AND I DIDN'T KNOW WHAT THEY

WERE.

GEORGIA, DELAWARE, FLORIDA,

KENTUCKY, LOUISIANA, MARYLAND.

DELAWARE.

YOU SCARED ME.

I THOUGHT IT IS ON HERE.

DEL WAWEAR, GEORGIA, KENTUCKY.

LOUISIANA.

MARYLAND, MISSISSIPPI, NORTH

CAROLINA, OKLAHOMA,

SOUTH CAROLINA, TENNESSEE,

TEXAS, VIRGINIA AND WEST

VIRGINIA.

THEY ARE IN THE SOUTH.

I DON'T KNOW BECAUSE I'M NOT A

NATIVE.

I WAS SURPRISED.

BUT ANY WAY, IF YOU'RE IN THOSE

STATES, WE NOW HAVE A WEBSITE OR

ELECTRONIC CAMPUS, A WAY FOR YOU

OR YOUR GRADUATE STUDENTS,

FACULTY AND DNP AND PHD STUDENTS

TO GET ON OUR CAMPUS AND TAKE

THIS CLASS AS PART OF YOUR

CAMPUS.

YOU'LL GET CREDIT FOR IT AT YOUR

CAMPUS.

THIS WAS SOMETHING THAT WE

STARTED YEARS AGO.

SHARON AND I WERE ON THIS

PROGRAM TOGETHER.

AND IT'S NEED BECAUSE YOU

CAN -- YOU DON'T HAVE TO DEVELOP

IT FOR THEM BUT THEY COME TO THE

UT CAMP US AND SIGN ON AS UT

REGISTER WITH OUR CAMPUS AND WE

ACTUALLY TEACH THE COURSE.

SO BECAUSE WE WERE GOING TO

DEVELOP THIS FOR OTHER STATES

AND FOR OUR SCHOOL, WE WANTED TO

DO A VERY GOOD JOB.

IT'S VERY NERVE RACKING TO TEACH

IT AT YOUR OWN SCHOOL BUT WHEN

OTHER PEOPLE START COMING TO

YOU, YOU REALLY WANT TO DO A

STELLAR JOB OF THIS.

SO, WHAT I DID WAS, HOW MANY OF

YOU HAVE INSTRUCTIONAL DESIGN

SPECIALISTS?

GET THIS ONBOARD.

BECAUSE I THINK YOU'RE REALLY

GOING TO NEED THEM.

IF YOU HAVEN'T DONE ANYTHING

LIKE THIS BEFORE AND YOU HAVEN'T

USED COURSE WEAR, I'M SURE MOST

OF YOU HAVE.

BUT YOU HAVEN'T DONE A

COMPLETELY DIFFERENT COURSE AND

IF YOU'RE GOING TO DO A STAND

ALONE COURSE, I DID.

WHAT I DID WAS, I THOUGHT I'M A

NURSE BUT I GOT FROM A NURSING

BACKGROUND WHO IS A GENETICIST

WITH ME AND A GOT A SPECIALIST

AND A BASIC SCIENTIST TOGETHER.

AND AS A TEAM, WE DEVELOPED THE

COURSE.

SO IT WAS REALLY NICE.

BUT THAT INSTRUCTIONAL DESIGN

SPECIALIST BROUGHT THE WHOLE

PROJECT INTO PERSPECTIVE.

WE EACH HAD OUR NICHE.

I WAS THE NURSE.

WE HAD THE SCIENTISTS.

AND WE EACH HAD SOMETHING THAT

WE WANTED TO PUT IN THE COURSE.

SHE MADE SURE THAT IT WAS

BALANCED IN THE SCOPE WAS GOOD

AND THAT IT RAN WELL TOGETHER.

WE MET 6 MONTHS FREQUENTLY EVERY

WEEK TOGETHER AS A TEAM BEFORE

WE PUT THE COURSE TOGETHER.

IT WAS A DISTANCE COURSE AND WE

WANTED TO BE REALLY GOOD.

AND WE HAD A STEERING COMMITTEE

WITH THE SRE.

AND IDENTIFIED TOPICS AND

OBJECTIVES FOR THOSE TOPICS AND

LIKE EVERYBODY ELSE, FOR OUR

TOPICS, WE USED THE ESSENTIALS

OF NURSING PRACTICE AND GENETICS

AND GENOMICS.

WE WENT DOWN EACH ONE OF THOSE

AND REALLY TOOK FROM THEM WHAT

WE WANTED TO PUT IN THE CLASS.

WE WANTED THEM TO UNDERSTAND

BASIC GENETICS AND GENOMICS

CONCEPT.

WE WANTED TO ANALYZE FAMILY

HISTORY AND PEDIGREE WHICH WE

HAVE DONE.

WE TALKED ABOUT A LOT HERE.

ADVOCATE FOR THE RIGHTS OF

CLIENTS.

APPLY UNDERSTANDING OF

RELATIONSHIP IN GENOMICS TO HELP

PREVENTIONS SCREENING AND

DIAGNOSTICS.

YOU'LL GET ALL THIS.

LOOK AT THE COMPETENCY.

THEN WE ALSO WANTED THEM TO

INTERPRET GENETIC RESEARCH

APPLIED PRINCIPLES THAT DIDN'T

FACE CLINICAL PRACTICE.

BECAUSE IT'S BEEN SAID HERE AND

I I THINK THE IMPORTANT PART OF

ALL OF THIS IS NOT THAT THEY

KNOW ABOUT MYTOSIS.

WHO REALLY CARES?

BUT THEY CAN APPLY IT TO

CLINICAL PRACTICE.

WHATEVER THAT IS.

YOUR STORY WAS GREAT.

IT WAS JUST TAKING THE PEDIGREE.

THAT WAS APPLICATION INTO

PRACTICE.

IT CAN GO FROM THERE TO BEING

VERY SOPHISTICATED.

IN THOSE DECISIONS.

BUT FOR THE NP STUDENTS, WE
REALLY FOCUSED ON THEIR CLINICAL
PRACTICE.
I HAVE HERE EXAMPLES OF THINGS
THAT WERE GEARED FOR THE
CLINICIAN.
EACH STUDENT HAD TO DEVELOP A
CASE STUDY USING A PATIENT THEY
WERE LIKELY TO ENCOUNTER IN
THEIR POPULATION.
IF YOU'RE NOT WITH THOSE
STUDENTS, YOU HAVE TO PUT,
LIKELY TO ENCOUNTER.
I APPRECIATE THE FACT YOU DIDN'T
WANT TO LOOK AT THEIR PEDIGREE
BECAUSE IT'S PERSONAL TO THEM.
AND I AGREE THAT THAT TO SOME
EXTENT TOO.
YOU HAVE TO KIND OF WANG IT ON
THESE -- WING IT ON HOW YOU DO
YOUR PROJECTS.
ON THIS ONE, SOME STUDENTS
ACTUALLY HAVE A CASE STUDY AND
SOME DON'T.
ONCE THEY HAVE A CASE STUDY, WE

WANTED THEM TO WRITE THEM UP.

AND WE HAD THE HAND UP IN THE

AIR THERE.

-- WE WANTED THEM TO DO A CASE

STUDY THAT WAS REALLY GOOD.

SO THIS IS JUST DOWN UNDER SRE.

AND NONPROFIT.

AND WE ARE ON THERE THEIR

ELECTRONIC CAMPUS.

YOU CAN LEARN AND UNDERSTAND

EDUCATIONAL OPPORTUNITY.

GO ON THE ELECTRONIC CAMPUS IN

THE SOUTH.

>> [LOW AUDIO]

>> JUST SREB.

YOU CAN GOOGLE IT.

I GOOGLE IT ALL THE TIME.

SO THE COURSE DEVELOPMENT IS

WEB-BASED COURSE.

IT'S TO SUIT THE NEEDS OF THE

NURSE CLINICIAN.

LET'S TALK ABOUT BARRIERS.

WE HAD TO BREAKTHROUGH THE COST

F YOU HAVE STUDENTS FROM OTHER

UNIVERSITIES, YOU CAN'T CHARGE

THEM FOR LABS.

YOU CAN'T CHARGE THEM FOR

LIBRARY.

I HAD TO SIT DOWN AND NEGOTIATED

THIS.

WITH THE REGISTRAR AND WITH

EVERYBODY AT OUR UNIVERSITY AND

THAT SOUNDS LIKE AN EASY THIS

THING TO DO.

IT WAS NOT.

AND EVERY TIME I WOULD THINK IT

WAS ACCOMPLISHED, THE NEXT

SEMESTER IT WAS LIKE WE ARE BACK

AT STAGE ONE AND I HAVE TO SAY,

WHO DO I HAVE TO TALK TO NOW?

AND THEN, I WOULD TALK TO THE

SREB, TALK TO NUMEROUS PEOPLE.

IT WAS REALLY ENOUGH TO DRIVE

YOU CRAZY.

SO IF YOU'RE GOING TO DO THAT,

THINK ABOUT IT UPFRONT AND THE

REGISTRAR YOU WOULD THINK IT

MIGHT BE THEIR JOB BUT IT IS

NOT.

IT'S YOUR JOB.

I THINK.

IS IT AT MY UNIVERSITY.

SOCIETY OTHER THING, AND THAT'S

A CONTINUAL JOURNEY EVERY

SEMESTER.

YOU HAVE TO REVISIT THAT.

REFERENCE BOOKS, WE DID NOT USE

A REFERENCE BOOK.

IT WAS HARD FOR OUR STUDENTS.

WE NEED TO DO THAT.

THEY DIDN'T LIKE IT.

AND DIFFERENT WAYS THAT FACULTY

APPROACH IT F YOU'RE TEACHING A

COURSE WITH OTHER FACULTY, YOU

HAVE TO KNOW THAT EVERYBODY DOES

THINGS DIFFERENTLY AND THE

STUDENTS HAVE TO GET USED TO

THAT.

SUCCESSES, WE DEVELOPED THE TEAM

THAT WORKS WELL TOGETHER.

THE STUDENTS LOVE THE COURSE.

AND THEY HELP SHAPE THAT COURSE

FROM YEAR TO YEAR.

YOU CAN ACTUALLY, I KNOW THERE

ARE OTHER METHODS OR OTHER

COURSE WEAR BESIDES BLACK BOARD.

HOW MANY OF YOU USE BLACK BOARD.

THERE ARE OTHER METHODS.

AND I DON'T REMEMBER THE NAMES

OF THEM.

>> [LOW AUDIO]

>> D2L.

THERE ARE TWICE TRANSFER

COURSEES TO DIFFERENT COURSE

WEAR AND YOU HAVE GOT TO ARRANGE

THEM ACCORDING TO SPECIFIC

STANDARDS WHEN YOU DO THAT SO IF

YOU PLAN TO DO THAT, MAKE SURE

YOU HAVE A SPECIALIST WORK WITH

YOU.

THAT'S A PRIORITY.

I ENJOYED STARTING WITH A NEW

PROGRAM.

I'M A FOCUSED PERSON.

I'M A RESEARCHER.

IT WAS GREAT.

THEY DIDN'T COME TO ME AND SAY,

INTEGRATE IT EVERYWHERE IN THE

PROGRAM.

THAT DOES NOT APPEAL TO ME.

SO I THINK YOU WHAT HAVE TO DO

IS -- I WAS ALSO GIVEN THE TASK

WE WOULD HAVE THE STUDENT SIT

ARE SIT FOR A REQUIRED COURSE.

I LIKE THAT METHOD.

HAVE ENOUGH EXPERIENCE FACULTY

AND MAINTENANCE ISSUES.

YOU CAN'T DESIGN A COURSE LIKE

ANATOMY IN BLACK BEARD OR

ANYTHINGELSE AND EXPECT IT TO BE

GOOD FOR 10 YEARS OR A YEAR.

THINGS CHANGE.

SO YOU ARE GOING TO GO BACK WITH

THAT FACULTY AND VISIT IT EACH

SEMESTER AND UPDATE IT.

THAT HAS TO BE DONE.

WORK WITH A CURRICULUM DEVELOPED

EXPERT.

I HAVE GREAT RESPECT FOR THEM.

USED INTERACTIVE LEARNING BLOGS,

REFLECTION AND DISCUSSION BOARD

DIRECTED DISCUSSION, I WASN'T

INTO DOING THE BLOG.

THE STUDENTS LOVED THEM.

USE A TEXTBOOK.

OFFER A LECTURE IF POSSIBLE IN

BASIC GENETIC.

OUR STUDENTS TO BE HONEST, DID

NOT LIKE THE BASICS.

THEY WANTED TO TALK TO A REAL

LIFE PERSON AND WE ARE GLAD

BECAUSE WE LIKE TO BE REAL LIFE

PEOPLE.

THE OTHER THING I WANTED TO TALK

ABOUT THAT IS EXCITING IS HOW

MANY PEOPLE ARE -- I KNOW WE

TALKED ABOUT THE NEIGHBORHOOD.

HOW MANY PEOPLE ARE FAMILIAR

WITH SECOND LIGHT?

HOW MANY HAVE AN AVATAR.

MY AF TAR'S NAME IS GINGER.

IT'S ITALIAN AND I CAN'T

REMEMBER THE LAST NAME.

[LAUGHTER]

AND THAT IS WHO I AM AS TEACHER.

AND SO, WE, ACROSS THE UT

SYSTEM, SO THAT MEANS THERE ARE

TWO UT PEOPLE HERE AND I'M NOT

TRYING TO GLORIFY TEXAS.

[LAUGHTER]

WHAT WE ARE GOING TO DO IS HAVE

A SYSTEM WIDE INITIATIVE IN

NURSING WHERE WE WILL HAVE AN

ISLAND.

IF YOU DON'T KNOW THIS LANGUAGE,

I DIDN'T KNOW IT EITHER SO IT'S

OKAY.

AND THAT ISLAND IS WHERE YOU

DEVELOP A COMMUNITY OF AF TARS.

AND THE STUDENTS WILL COME AS AF

TARS AND ATTEND OUR CLASSES AND

WE ARE GOING TO PROBABLY PUT

GENETICS IN SECOND LIFE.

AND SO THERE IS LOTS.

WHEN YOU TALK ABOUT IT, IT'S SO

EXCITING HOW EDUCATION IS

CHANGING.

HOW WE CAN GO FORWARD.

HOW WE CAN MAKE THIS EXCITING.

THE ONLY THING THAT SCARCE ME IS

THE FACULTY ARE NOT REALLY WITH

IT.

I'M NOTE WITH IT.

BUT YOU KNOW, I CELEBRATE EACH

AND EVERYONE OF YOU GUYS BECAUSE

YOU HAVE VOLUNTEERED TO DO

SOMETHING DIFFERENT, TO GO

BEYOND YOU WHAT KNOW TO APPLY

IT, TO BE SCARED.

THERE IS A FEAR FACTOR.

KEEP GOING.

ANYTHING TA COMES UP, USE IT.

HAVE FUN WITH THOSE STUDENTS.

LISTEN TO THEM.

DON'T BE AFRAID.

BECOME AN AVATAR.

AS I'M NOW A GINGER.

AND HAVE FUN WITH THIS

[APPLAUSE]

>> KATHY IS FINDING SLIDES.

I CAME ABOUT FROM THE OTHER SIDE

IN THAT I HAD NO BASIC EDUCATION

OR INTEREST IN GENETICS OTHER

THAN I'M THE SOLE SURVIVOR OF 3

SIBLINGS BORN TO PARENTS BOTH

WHO CARRIED THE GENE FOR

CYSTICKIFY BROSEIS AND MY

BROTHER DIED BEFORE I WAS BORN.

MY SISTER DIED WHEN I WAS 10 AND

SHE WAS 6.

SO I WAS INTERESTED IN GENETICS

FROM A PERSONAL PERSPECTIVE.

AND I HAD A DOCTORAL STUDENT WHO

WAS WORKING WITH ME NAMED

SHIRLEY JONES, ONE OF THE

LEADERS IN THE GENETICS MOVEMENT

AND SHE CAME TO ME AS WANTING ME

TO CHAIR HER DISSERTATION ON THE

DIFFUSION OF INNOVATION AND THE

INNOVATION SHE WAS LOOKING AT

WAS GENETICS IN PRACTICE.

SHE WAS PRESIDENT OF ISONG THAT

YEAR.

THAT'S WHAT I CALLED IT.

AND SO, SHE SAID, YOU ALWAYS HAD

AN INTEREST IN GENETICS.

I THINK YOU SHOULD JOIN ISONG.

I WAS TRYING TO BE SUPPORTIVE OF

MY DOCTORAL STUDENTS SO I SURE,

I CAN DO THAT FOR YOU, SHIRLEY.

IT'S ONLY 100 DOLLARS.

WHAT'S THE BIG DEAL?

AND THE NEXT THING I KNOW, I GOT

A PHONE CALL ONE DAY.

SHIRLEY HAD NOMINATED ME TO BE

THE NURSE ON THE SECRETARY'S
ADVISORY COMMITTEE ON GENETIC
TESTING AND DEJA VU ALL OVER THE
AGAIN.
THIS WAS ITS ROOM WE MET IN FOR
3 YEARS.
AND I SAID, I REALLY DON'T KNOW
VERY MUCH ABOUT GENETICS.
SHIRLEY SAID THAT'S GOOD BUT YOU
KNOW ABOUT PUBLIC POLICY AND
NURSING.
AND WE NEED NURSING VOICE AT THE
TABLE.
IT'S VERY SCARY TO REPRESENT 2.7
MILLION PEOPLE AND I KNEW I
COULD NEVER REPRESENT NURSING
BECAUSE WE DON'T AGREE ON A
WHOLE LOT OF THINGS.
BUT WHAT I COULD DO IS BRING A
NURSING PERSPECTIVE TO THE
TABLE.
SO HERE I SAT WITH THE LAST
GENETICS I HAD HAD WAS WITH
1968.
SHIRLEY WAS MY FRIEND.

AND I WAS A PRACTITIONER AND MY
PHD IS IN PUBLIC POLICY SO I
THOUGHT IT WAS GOING TO BE COOL
TO MAKE POLICY.
AND WE SAT HERE FOR 3 YEARS
UNTIL THE SECRETARY CHALET LA TO
WHOM HAD APPOINTED US IN THE
CLINTON ADMINISTRATION.
SHE WAS GONE AND THE NEW
ADMINISTRATION CAME IN AND THEY
HAD A DIFFERENT VIEW ON GENETICS
AND THEY APPOINTED A DIFFERENT
COMMITTEE.
BUT I SALT HERE FOR 3 YEARS.
KNEW VERY LITTLE ABOUT THIS AND
THEN I THOUGHT, I WAS ABLE TO
REPRESENT GENETICS PERSPECTIVE
TO THE TABLE AND TALK ABOUT
CLINICIAN AS OPPOSED TO
MEDICINE, HEALTH CARE AS OPPOSED
TO MEDICINE, PRIMARY CARE
PROVIDER AS OPPOSED TO
PHYSICIAN, AND MAKE SURE THAT A
NURSING PERSPECTIVE WAS PART OF
ALL THE DISCUSSIONS.

SO MUCH I DID THAT FOR A WHILE

AND THEN I THOUGHT, I REALLYO

THE NURSING COMMUNITY SOMETHING.

THIS HAS BEEN A PEAK LIFE

EXPERIENCE FOR ME.

SO DALE WAS SITTING WITH ME.

SHE IS THE GUILTY PARTY.

AND I SAID TO HER ONE DAY, I'LL

BE REALLY HAPPY TO HELP THE

GENETICS COMMUNITY BECAUSE THIS

HAS BEEN A GREAT EXPERIENCE.

I'M HAPPY TO HELP.

I COULD BE A BOARD MEMBER OR

SOMETHING AND THE NEXT THING I

KNOW I GOT A PHONE CALL FROM THE

EXECUTIVE SECRETARY SAYING WE

ARE SO PLEASED YOU'RE RUNNING

FOR THE PRESIDENCY OF ISONG.

I AM?

DALE, WHAT DID YOU DO TO ME?

I DECIDEDDA AT THAT POINT I HAD

BETTER LEARN SOMETHING ABOUT

GENETICS OTHER THAN THE COURSE I

TOOK IN 1968 AND MY ONGOING

INTEREST IN WHAT I HAD LEARNED

BEING ON THE SECRETARY'S

ADVISORY COMMITTEE.

SO AT THAT POINT, I SIGNED UP

FOR CINDY'S WEB-BASED GENETIC

INSTITUTE.

TOOK THAT FOR 18 WEEKS AND THEN

SIGNED UP FOR THE SUMMER

GENETICS INSTITUTE HERE AT NIH.

DID THAT FOR 8 WEEKS AND THEN I

FIGURED I KNEW A LITTLE BIT

ABOUT GENETICS AND THEN I WAS

READY TO BE PRESIDENT OF ISONG

AND KATHY FOLLOWED ME AND SHE

CAME THAT SUMMER WHILE I WAS

HERE.

SHE INTERVIEWED ME BEFORE SHE

AGREED TO RUN FOR

PRESIDENT-ELECT.

BECAUSE SHE WANTED TO KNOW WHAT

MY STRATEGIC PLAN WAS.

SO I SAT THERE WITH A REALLY

GOOD -- SOMEBODY WHOA HAD REALLY

GOOD BASICKIC CLINICAL

KNOWLEDGE.

I HAD TAKEN THESE TWO COURSES

AND I WAS READY TO ROLE.

THAT'S HOW I GOT INTO GENETICS.

WHICH WAS VERY DIFFERENT THAN

MOST OF THE OTHER PEOPLE SITTING

ON THIS SIDE WHO HAD A LOT OF

FORMAL TRAINING.

I WAS ALWAYS INTERESTED.

I HAD A PASSION FOR IT.

IT WAS SOMETHING THAT HAD MY

MOTHER LIVED SHE WOULD HAVE BEEN

REALLY PLEASED THAT HI DONE

THIS.

AND THEN I WENT BACK HOME AND I

WITH RESPECTED TO START PUTTING

THIS IN THE CURRICULUM.

UNTIL GIN Y I FOUND OUT BEING

FROM BOSTON AND MOVING TO

VIRGINIA WAS A REAL EYE-OPENING

EXPERIENCE BECAUSE WE DO

THINGS -- IF MR. JEFFERSON

DIDN'T WANT IT DONE, IT DIDN'T

GET DONE.

THINGS MOVED REALLY SLOWLY.

THE WHITE HOUSE WAS IN THE

MIDDLE OF OUR CAMPUS.

THEY KEPT REENACTING THE WAR OF
NORTHERN AGGRESSION HOPING IT
WILL COME OUT DIFFERENTLY.
IT'S JUST A VERY DIFFERENT PLACE
TO BE.
SO WHAT HAPPENED TO ME WAS, I
WAS TEACHING UNDERGRADUATE
NURSING OF WOMEN.
HAD GENET NIX THAT COURSE, THAT
WAS FINE.
AND OUR PROGRAM IS SET UP SO THE
RN TO BF STUDENTS HAD TO TAKE AN
ELECT AND I HAVE THEY WERE
LOOKING FOR ENOUGH ELECTIVES
BECAUSE WE HAD OVER ENROLLED
STUDENTS.
DIDN'T HAVE ENOUGH ELECTIVES TO
GO AROUND.
SO A FRIEND OF MINE SAID, HOW
WOULD YOU LIKE TO TEACH AN
ELECTIVE IN GENETICS?
I THOUGHT, I KNOW THIS STUFF
NOW, I CAN DO THAT.
SO FOR 3 TIMES, I TAUGHT THIS
COURSE.

AND YOU CAN, IN OUR SCHOOL,

TEACH A COURSE THAT IS A SPECIAL

TOPICS FOR 3 TIMES WITHOUT

GETTING FORMAL CURRICULUM

APPROVAL.

SO MY COLLEAGUE WHO WAS MY BIG

CHAMPION WHO WAS THE COORDINATOR

OF THE RN PROGRAM, WE OFFERED

THIS COURSE 3 TIMES.

IT NEVER DID GET TO GO THROUGH

THE FORMAL CURRICULUM APPROVAL

PROCESS.

WHEN SHE SAID TO ME, HOW WOULD

YOU LIKE TO TEACH THIS COURSE, I

HAD RETIRED THAT THE POINT.

SO A LITTLE EXTRA INCOME IS NOT

BAD.

I'M GOING TO BE TEACHING IT

ONLINE.

BUT I NEEDED -- I DIDN'T HAVE A

SEMESTER TO DEVELOP THE COURSE

BECAUSE WHEN YOU'RE AN ADJUNCT

FACULTY MEMBER THEY DON'T GIVE

YOU RELIEF TIME.

NOR DO THEY PAY YOU FOR COURSE

PREPARATION.

I REMEMBERED THE MATERIAL CINDY

WILL BE TALKING TO YOU ABOUT,

AND HAD DEVELOPED IT AS PART OF

THE WEB-BASED GENETIC INSTITUTE

AND I NOTICED YOU COULD:THIS

MATERIAL.

I SAW IT WAS ABOUT 300 DOLLARS.

I'M SURE IT IS MORE NOW.

BUT IT WAS MAYBE 5,000 DOLLARS.

SOMEWHERE IN THAT RANGE T WASN'T

ASTRONOMICAL.

SO I WENT TO THE SCHOOL AND I

SAID, LIVED RED LIED LOVE TO

TEACH THIS COURSE.

ED THIS IS WONDERFUL.

I WOULD LOVE TO TEACH THIS THIS

COURSE.

AND THEY SAID, I'M NOT

INTERESTED IN THAT.

I THOUGHT, I'M GOING MAKE MY

LIFE EASY.

I BOUGHT IT.

SI TOLD MY FRIEND IF I LEAVE

TEACHING SHE WAS GOING TO BUY

THIS COURSE.

SO WE SET IT UP FELTY ONLINE AS

UNELECTEDDIVE.

YOU CAN SEE WHAT THE ENROLLMENT

WAS.

A TOTAL OF ABOUT 70 STUDENTS

OVER A CALENDAR YEAR.

AND THESE WERE STUDENTS WHO

RANGED FROM BRAND NEW ASSOCIATE

DEGREE GRADUATES OR DIPLOMA

SCHOOL GRADUATES, WE STILL HAD

DIPLOMA SCHOOLS, THEY ARE ALIVE,

WELL AND THRIVING.

AND SO THE STUDENTS RANGE FROM

PEOPLE WHO HAD GRADUATED THE

MONTH BEFORE THEY STARTED THE RN

PROGRAM, TO PEOPLE WHO HAVE BEEN

OUT THERE FOREVER PRACTICING AND

FOR SOME REASON THEY WERE GOING

BACK TO THE BACHELOR DEGREES.

THEY WERE ALL WORKING AS

REGISTERED NURSES.

WHAT I LEARNED FROM WHAT THEY

KNEW ABOUT SOME OF THE PRACTICE

ISSUES, THAT'S SCARY.

BUT THEY ARE ALL OUT THERE

WORKING AS REGISTERED NURSES.

CINDY'S MATERIAL HAD 16 MODULES

IN THIS.

THE FIRST TIME I TAUGHT THE

COURSE WAS IN THE SUMMER AND

IT'S 6 WEEKS.

SO I LOOKED AT WHAT CAN I DO

WHEN I TOOK 8 OF THE 16 OR 10 OF

THE 16 MODULES AND PUT TOGETHER

THIS STUFF THAT DIDN'T INCLUDE

THE BASIC CLINICAL GENETICS BUT

INCLUDED THE APPLICATION.

CINDY HAD HAS IT LAID OUT IN A

WAY THAT SAYS, HERE IS WHAT YOU

DOCK IF IT'S A STAND ALONE

COURSE.

HERE IS YOU WHAT CAN DO FOR

CLINICAL PA PRACTICE.

I STARTED WITH THESE PARTICULAR

UNITS.

THIS IS OUT OF THE SYLLABUS.

THOSE ARE THE DATES THAT WILL I

USED TO GIVE YOU A SENSE OF HOW

LONG THE STUDENTS HAD.

THEN WHEN I TAUGHT IT FOR A FULL

YEAR, FOR A FULL SEMESTER, THAT

WAS 16 WEEKS LONG, I DECIDED TO

USE ALL 16 MODULES.

AND THE STUFF IS OUT THERE IT'S

A BEAUTIFULLY DESIGNED THING.

IF YOU WANT TO MAKE YOUR LIFE

EASY, GET STUNNEDY'S LICENSE AND

I'M NOT SELLING HER MATERIAL.

THIS IS -- I'M SORRY.

BUT I WAS OUT THERE.

I'M AN ADJUNCT, RETIRED.

I WANT TO MAKE LIFE SIMPLE.

SOMEBODY ALREADY DEVELOPED THIS

STUFF.

WHY WOULD I REINVENT THE WHEEL?

EVERY WEEK THERE IS READINGS,

CASE STUDIES, QUIZZES, ALL SORTS

OF STUFF IT'S JUST THERE.

CUT AND PASTE AND PUT IT INTO

BLACK BOARD.

I SAID IF I COULD JUST COPY IT,

LIFE WOULD BE MUCH EASIER.

I WOULDN'T HAVE TO CUT AND

PASTE.

I KNOW HOW TO CUT AND PASTE

REALLY WELL.

SO I PUT THE COURSE TOGETHER AND

THEN IN THE ENTERING OF 2008, IT

LOOKED BASICALLY THE SAME.

WHAT HAPPENED?

THERE WERE AAMOUNTS AND QUIZZES.

THE QUIZES ARE IN THE COURSE.

JUST TAKE THE QUIZ AND PUT IT

INTO BLACK BOARD.

BLACK BOARD GRADES IT AND IT'S

EASY.

DISCUSSION FORUMS, LIKE ONE OF

THE DISCUSSION FORUMS WAS READ

THE NEWSPAPER.

FIND SOMETHING IN THE NEWSPAPER

THAT RELATES TO GENETICS OR

GENOMICS.

DISCUSS IT IN 250 WORDS OR LESS.

YOU HAVE TO RESPOND TO AT LEAST

ONE OF YOUR CLASSMATES.

PEDIGREE INTERPRETATION.

PEDIGREES IN THE COURSE, CUT AND

PASTED IT.

ASKED THE STUDENTS TO DO THE

PEDIGREE.

WHAT I DECIDED FOR THESE RNs

WHO WERE SCARED TO DEATH OF THIS

STUFF, ESPECIALLY THE ONES IN

PRACTICE FOR 20 YEARS.

THEY WERE SCARED SPITLESS OR

MADE NOT SPITLESS, BUT THEY WERE

OUT THERE.

I DECIDED THAT THEY WOULD GET

CREDIT IF THEY COMPLETED THE

ASSIGNMENT.

THERE WOULD BE NO TAKING OFF

POINTS IF YOU GOT IT WRONG.

OTHER THAN ON THE QUIZZES.

IF YOU COMPLETE THE ASSIGNMENT,

YOU GET FULL CREDIT.

AND WHAT I WOULD DO IS I WOULD

LEAVE THE ASSIGNMENT THE LAST

DAY, I WOULD POST THE ANSWER AND

SAY TO THEM, TAKE A LOOK AT YOU

WHAT DID.

COMPARE IT TO THE ANSWER.

SO THAT YOU HAVE THE INDIVIDUAL

LEARNING BUT I'M NOT GOING TO

GRADE YOU AS WRONG.

THAT WAS VERY INTERESTING

BECAUSE IN SOME OF THE ETHICAL

ISSUES, THESE NURSES WHO HAD

BEEN PRACTICING FOR 20 YEARS,

THEY KNEW THE ANSWER.

THE WORLD IS BLACK AND WHITE.

THE FAMILY MUST DO DA DA DA.

THEN READ MY ANSWER WHICH WOULD

SAY THESE ARE THE ISSUES YOU MAY

WANT TO CONSIDER IN TALKING TO

FAMILY.

BUT I DECIDED I NEVER CALLED

ANYBODY OUT ON THEIR RIGID

ANSWERS.

IT WAS LIKE, IT WAS LEARNING AT

THE SELF LEVEL.

THEY GOT TO DRAW A PED COUNTRY.

THEY GOT MR. SMITH AND

MR. JONES.

-- PEDIGREE.

I HAD THEM SET UP AND GIVEN A

PARTNER AND MAKE A PHONE CALL,

DO IT OVER THE PHONE.

THESE RNs THAT WAS 22

STRESSFUL.

THEY WORKED DIFFERENT HOURS AND

THEY DIDN'T KNOW THEIR PARTNER,

THEY WERE SCARED TO DEATH TO

MAKE THE PHONE CALL.

SO ANY WAY, I JUST GAVE THEM A

HISTORY AND SAID, GIVE THE

ANSWER.

DRAW THE PEDIGREE.

SUBMIT IT BY E-MAIL.

THEY HAD TO IDENTIFY RESOURCES.

THERE WERE CASE STUDIESES AND

CASE SCENARIOS AND AT THE

BEGINNING I ASSIGNED CASES.

RANDOMLY.

SO THEY COULDN'T JUST CHOOSE THE

CASES THAT THEY WERE PART OF

THEIR PRACTICE.

IF YOU WERE -- BECAUSE CINDY

WORKS AT A CHILDREN'S HOSPITAL,

THE NICE THING IS THE PIECED

PEOPLE DON'T FEEL LIKE ORPHANS.

A LOT OF TIME THE APPELLATE

PEOPLE FEEL LIKE ORPHANS.

I WOULD JUST ASSIGN THEM 5 IF

YOU DO THIS CASE AND 5 IF YOU DO

THIS CASE AND 5 IF YOU DO THIS

CASE.

AND AT THE END, AFTER THEY WENT

THROUGH 4-5 CASES, I SAID PICK

THE SCENARIO YOU WANT.

SO TOWARDS THE END, THEY HAD

SOME CHOICES OVER WHICH

SCENARIOS THEY PICKED.

SO THE -- THEY HAD REQUIRED

TEXTBOOKS WHICH WERE THE

CONSENSUS DOCUMENT.

THE ISONG STANDARDS AND JEAN AND

DALE HAVE A WONDERFUL BOOK THAT

IS CASE STUDIES THE STUDENTS

LOVE THE BOOK.

AND THEN I GAVE THEM SOME

OPTIONAL READINGS AND I SAID TO

THEM, I SENT THEM AN E-MAIL THAT

SAID, HERE IS SOME OPTIONAL

BOOKS.

TAKE A LOOK AND FIGURE OUT WHICH

ONES BEST FIT YOUR LEARNING

STYLE.

AND THEY HAD BOOKS THEY COULD

CHOOSE IF THEY WANTED THEM F

THEY DIDN'T WANT THEM.

BUT A LOT OF THEM FELT LIKE THEY

NEEDED SOME OF THAT BASIC

GENETIC INFORMATION.

BECAUSE THEY DIDN'T HAVE ACCESS

TO IT.

SO THEY HAD SOME CHOICES IN

TERMS OF TEXTBOOKS.

THESE ARE ADULT LEARNERS.

THESE ARE THE STUDENTS COMMENTS

I GOT.

UNSOLICITED.

THESE WERE NOT ON THE COURSE

EVALUATIONS.

THESE WERE E-MAILS I GOT FROM

THE STUDENTS TOWARDS THE END OF

THE COURSE.

I REALLY ENJOYED LEARN BEING

GENETICS NOW I HAVE A BETTER

UNDERSTANDING.

SO IT WAS REALLY INTERESTING IN

TERMS OF WHAT SOME OF THE

STUDENTS SELF ADMITD TO

LEARNING.

AND I DID FIND PEOPLE WHO WERE

REALLY -- THEIR LIGHT GOT TURNED

ON AND THIS PARTICULAR STUDENT

IS LOOKING AT A ADVANCED

PRACTICE ROLE IN GENETICS AND

NOT SURE WHETHER SHE IS GOING TO

DO A MASTERS DEGREE IN NURSING

OR GOING TO DO THE GENETIC

COUNSELING.

I TRIED TO WORK WITH OUR GENETIC

COUNSELING FOLKS TO SEE IF MAYBE

WE COULD COMBINE THE NURSING

COURSE AND THE GENETIC

COUNCILLING TO MAKE A HYBRID

PROGRAM BUT THE DIRECTOR OF THAT

PROGRAM DIDN'T THINK IT WAS

APPROPRIATE FOR NURSEES TO HAVE

THAT KIND OF CONTENT.

SO I DECIDED I WASN'T GOING TO

FIGHT THAT BATTLE ANYMORE.

AND THESE ARE THE KIND OF

COMMENTS THAT I GOT FROM

STUDENTS.

LOOKING AT THEIR INTEREST.

TO ME THIS WAS

VERY -- ADDITIONAL COMMENTS ON

THE COURSE OUTLINE BUT I JUST

WENT WITH WHAT I HAD IN MY

E-MAIL IN BOXES.

I PREPARED THESE SLIDES BECAUSE

I ENDED UP NOT HAVING AS MUCH

TIME AS SOME OF THE OTHERS

BECAUSE I EVENEDDED UP BEING A

LAST MINUTE SUBSTITUTE.

I JUST PUT THIS TOGETHER WITH

WHAT WAS IN MY IN BOX.

THEY REALLY DID LEARN A LOT AND

ENJOYED THE COURSE.

IT WAS A GOOD LEARNING

EXPERIENCE.

MOST OF THEM.

SO HERE IS SOMEBODY RUNNING

LATE.

I THINK IT'S WONDERFUL BECAUSE

YOU CAN LEARN AT YOUR OWN PACE.

I'M TEACHING ONLINE.

RIGHT NOW TEACHING A COURSE IN

OUR PROGRAM CALLED INFORMATION

LITERACY AND HEALTH CARE.

WE STARTED IN AUGUST.

ONE OF THE STUDENTS HAS

COMPLETED ALL THE ASSIGNMENTS.

EXCEPT FOR THE COLLABORATIVE

PROJECT.

THERE WERE OTHERS WHO ARE STILL

ON WEEK 1.

SO WHAT HAPPENED TO THE COURSE?

THE CURRICULUM CHANGED.

ELECTIVES WERE NO LONGER

NECESSARY.

SO THE STUDENTS NO LONGER HAVE

AN ELECTIVE.

AND THEN, GIVEN LIKE ALL OF US

ARE FACING BUDGETARY ISSUES,

ANYTHING THAT IS NOT REQUIRED

ISN'T OFFERED ANYMORE.

WE WILL CUT TO THE BONE.

THE COORDINATOR CHANGED.

SO MY CHAMPION IS LIVING IN

CALIFORNIA DOING STAINED GLASS.

[LAUGHTER]

I'M GOING TO HER NEXT MONTH.

I HOPE IT'S PRETTY.

IF SOMEBODY BELIEVES THIS IS

IMPORTANT, OKAY, THE MATERIAL IS

NOW QUOTE/UNQUOTE INTEGRATED IN

THE CURRICULUM.

WHATEVER THAT MEANS.

I DON'T BELIEVE IT.

WE ARE A NLNIC SCHOOL AND OUR

SITE VISIT IS INCOME EVERNEXT

MONTH AND WE JUST GOT THE FINAL

COPY OF THE STUDY IN A PDF.

I FOUND 5 INSTANCES OF THE WORD

GENETIC.

TWO OF THEM I KNOW ARE NOT

ACCURATE.

THE OTHER 3 ARE EXAMPLES OF WHAT

IS HAPPENING.

AND I STILL AMGOING IN IN THE

NURSING OF WOMEN COURSES IN

GENETICS AND THAT'S NOT EVEN

LISTED IN THE STUDY.

SO I DON'T KNOW WHERE THEY ARE

AT BUT IT JUST WENT AWAY BECAUSE

IT WASN'T SOMETHING THAT WAS

PUTTING INTO PRACTICE.

SO WHAT IS NEEDED?

I THINK THAT WHAT IS NEEDED LIKE

WHEN KATHY CALLED AND TOLD ME

ABOUT THIS FACULTY CHAMPION

MEETING, I'M NOT THE RIGHT ONE I

SAID.

YOU REALLY NEED A FACULTY

CHAMPION.

THAT IS VERY IMPORTANT OF.

YOU NEED SOMEONE 53ING

ATTENTION.

AND THERE NEED TO BE MANDATES.

I THINK THE ESSENTIALS ARE GOING

TO MAKE A WHOLE WORLD OF

DIFFERENCE.

-- THIS IS VERY IMPORTANT.

I HAVE THIS CARTOON.

IT'S A BUNCH OF DOGS AND ONE IS

COMING UP TO THE DESK OF THE

TEACHER.

AND THE DOG'S STUDENTS IS GOING,

IT'S ROLLING OVER ON THE FINAL.

IF IT'S NOT ON THE TEST, IF IT'S

NOT IN THE ACCREDTATION

DESK - AL YOU KNOW, WE'RE NOT

GOING TO DO IT.

WE ARE NO DIFFERENT THAN THE DOG

WHO ISN'T GOING TO ROLL OVER IF

IT'S NOT ON THE FINAL.

THERE NEEDS TO BE CARROTS BUT

THERE ALSO NEEDS TO BE STICKS

AND I BELIEVE THAT IS IMPORTANT.

I ALSO BELIEVE YOU NEED TO HAVE

SUPPORT FROM THE ACADEMIC

LEADERS IN THE INITUTION.

WHEN THE BOOK CAME OUT TO TALK

ABOUT THE COMPETENCY, THEY MADE

A APPOINTMENT WITH THE

UNDERGRADUATE CURRICULUM

COMMITTEE AND WITH THE GRADUATE

CURRICULUM COMMIT TOW BRING IN

THE BOOK AND SHARE THE

COMPETENCIES WITH THEM.

THEY WERE VERY POLITE.

THEY TOOK THE BOOK AND SAID

THANK YOU.

AND I SAID, DO YOU HAVE ANY

QUESTIONS?

NO, IF WE DO WE'LL BE IN TOUCH.

THAT'S THE LAST I HEARD FROM

THEM.

WE HAVE AN ASSOCIATE DEAN THAT

DOESN'T SEE THIS.

NOT AS IMPORTANT AS I SEE IT.

YOU REALLY NEED TO HAVE SOME

CHEERLEADERS IN THE INSTITUTION.

I THINK THAT'S VERY CRITICAL.

SO WHAT I WOULD SAY IS GET A

FRIEND AND BE OBNOXIOUS.

BECAUSE THAT IS WHAT MAKES

CHANGE HAPPEN.

NICE PEOPLE DON'T GET CHANGE

MADE.

WHAT IS IT A CARTOON THAT SAYS

NICE WOMEN NEVER CHANGE THE

WORLD?

BEING NICE ISN'T ENOUGH SO YOU

NEED TO FOCUS AND WORK WITH

PEOPLE AND I HAD A GREAT FUN

DEVELOPING THE COURSE.

I WAS SAD WHEN IT WENT AWAY.

ALL I CAN SAY IS THE STUDENTS

WHO HAD THE EXPERIENCE FOUND IT

TO BE VERY GOOD AND MY ADVICE

IS, DON'T SPEND HUNDREDS OF

HOURS RE-CREATING THE WHEEL

THERE.

IS LOTS OF WONDERFUL GOOD

RESOURCES OUT THERE IF YOU KNOW

HOW TO COPY AND PASTE AND ASK

PEOPLE FOR PERMISSION AND

LICENSING.

IT'S VERY EASY TO GET GOOD

MATERIAL AND YOU DON'T HAVE TO

SPEND HOURS AND HOURS DEVELOPING

IT ON YOUR OWN BECAUSE IT'S

ALREADY OUT THERE.

BRILLIANT PEOPLE HAVE DONE IT.

AND IF ANY OF YOU HAVE BEEN IN

THINGS LIKE THE FAMILY GENETIC

INSTITUTE OR THE WEB-BASED

GENETICS INSTITUTE OR ANY OF THE

THESE SHORT COURSES, THERE ARE

CONTINUES OF MATERIAL.

AND IF IT MAKES VERY EASY TO GET

WHAT YOU NEED.

I THANK YOU VERY MUCH.

AND I WISH YOU LUCK.

AND I'M HAPPY TO TALK TO ANYONE

WHO IS LOOKING FOR HELP AND

GUIDANCE ALONG THE WAY.

[APPLAUSE]

>> THANK YOU VERY MUCH.

SO TODAY I'M GOING TO TALK ABOUT

THE INTERDISCIPLINARY MODEL AND
WHAT WAS DONE AT THE UNIVERSITY
OF PITTSBURGH.
I THINK IT'S IMPORTANT TO
DISCUSS THIS MODEL BECAUSE SOME
OF YOU MAY NEED IT, WANT IT, MAY
NEED IT AT THE BEGINNING WHEN
YOU'RE GETTING THINGS OFF THE
GROUND AND THEN NOT NEED IT SO
MUCH ANYMORE BUT I THINK IT'S
IMPORTANT THAT WE DISCUSS THIS
MODEL BECAUSE -- AND TO DISCUSS
THE BARRIERS THAT I RAN INTO AS
WELL AS SOME OF THE LITTLE
NUGGETS OF ADVICE THAT I HAVE
FOR YOU.
SO LET ME TELL YOU BACKGROUND
ABOUT HOW I CAME TO BE AT A
SCHOOL OF NURSING.
SO, WHEN YOU START TALKING ABOUT
THIS TOP DOWN APPROACH AND
HAVING THE BUY IN FROM YOUR
UPPER ADMINISTRATION, THE DEAN
AT THE SCHOOL OF NURSING AT THE
UNIVERSITY OF PITTSBURGH WAS

RECRUITING A FACULTY MEMBER TO
COME INTO THE SCHOOL TO
INTEGRATE GENETICS AND GENOMICS
INTO THE CURRICULUM AS WELL AS
HOPEFULLY BRING ONBOARD SOME OF
THE GENETIC AND GENETIC RESEARCH
INTO THIS SCHOOL AS MORE AND
MORE OF THE NURSE SCIENTISTS
BECAME INTERESTED IN INTEGRATING
GENOMICS INTO THE RESEARCH.
SO SHE TRIED VERY, VERY HARD TO
FIND A NURSE FACULTY MEMBER WHO
COULD BRING ALL OF THAT.
WE ARE TALKING ABOUT THE END OF
1999 HERE AND IT WAS JUST REALLY
HARD TO FIND THOSE INDIVIDUALS.
AND THAT IS NOT THE CASE
ANYMORE.
THINGS HAVE PROGRESSED
ENORMOUSLY OVER THE LAST 10
YEARS.
BUT, AT THAT POINT IN TIME, HER
ONLY ALTERNATIVE WAS TO LOOK
TOWARDS A NON-NURSE TO BRING
INTO THE SCHOOL OF NURSING.

THIS IS NOT UNUSUAL FOR THE

UNIVERSITY OF PITTSBURGH.

WE HAVE A FAIR NUMBER OF

NON-NURSE FACULTY THAT TEACH IN

OUR PROGRAM AND THAT ARE OR HAVE

THEIR PRIMARY APPOINTMENTS IN

THE SCHOOL OF NURSING.

SO BUT HOWEVER, I WANTED TO

POINT IT OUT THAT WORN OF THE

THINGS THAT HAPPENED THAT THAT

POINT IN TIME MAY NOT NEED TO

HAPPEN TODAY, BUT IT'S STILL AN

OPTION FOR YOUR SCHOOL.

SO, IN THE YEAR OF 2000, I CAME

ONBOARD AT THE SCHOOL OF

NURSING, PRIMARY APPOINTMENT IN

THE SCHOOL WITH A SECONDARY

APPOINTMENT IN THE DEPARTMENT OF

HUMAN GENETICS SO I COULD KEEP

MY GRASSROOTS SIMMERING THERE IN

THE DEPARTMENT.

AND I'LL TELL YOU A LITTLE BIT

ABOUT SOME OF THE ADVANTAGES AND

DISADVANTAGES OF HAVING A

GENETICIST IN YOUR SCHOOL OF

NURSING.

SO FIRST LET ME TELL YOU THE

ADVANTAGES.

TO ME THEY FAR OUT WEIGHED ANY

ADVANTAGES.

ADVANTAGES TO THE SCHOOL HAVE

BEEN THAT FOR THOSE OF YOU WHO

ARE HERE, AND FRETTING ABOUT

INCORPORATING GENETICS AND

GENOMICS INTO YOUR CURRICULUM,

IF A GENETTIST WERE TO COME

ALONG AND BE ABLE TO DO ALL OF

THAT FOR YOU, YOU MAY BREATHE A

SIGH OF RELIEF.

SO THAT'S ONE ADVANTAGE THAT YOU

CAN BRING IN SOMEONE WHO CAN

ACTUALLY INCORPORATE THIS INTO

THE CURRICULUM AND ALLEVIATE

THAT FROM SOME OF THE FACULTY

WHILE THEY ARE ALSO TRYING TO

INCORPORATE GENETICS AND

GENOMICS INTO THEIR CURRICULUM.

SO, IT ALLEVIATE SOME OF THE

BURDEN ON THE FACULTY.

I'LL TALK A LITTLE BIT ABOUT THE

BARRIERS THAT I ENCOUNTERED

LATER ON BECAUSE THE FACULTY, A

LOT OF THEM WERE HAPPY TO HAVE

THIS PERSON COME ONBOARD AND

HELP THEM BUT THEN THERE WERE

ALSO FACULTY WHO WERE PART OF

THE BARRIER THAT I ENCOUNTERED.

ANOTHER ADVANTAGE TO THIS SCHOOL

IS HAVING BROUGHT IN A

GENETICIST THAT BROUGHT IN THE

ABILITY TO INCORPORATE GENETIC

AND GENOMIC RESEARCH INTO THE

NEUROSCIENCE TRAJECTORY.

SO OVER TIME, WE HAVE NOW HAVE

YOU'RE IN THE MINORITY IF YOU'RE

A NURSE SCIENTIST AT THE SCHOOL

OF NURSING AT THE UNIVERSITY OF

PITTSBURGH, AND DO NOT HAVE A

GENETIC OR GENOMIC COMPONENT.

SO WOO HAVE BEEN ABLE TO

FACILITATE THAT AND I'LL TALK

ABOUT OUR TRAINING GRAB LATER

AND HOW TRAINING GRANT AS WELL

AS THE RESEARCH THAT IS GOING ON

AT THE SCHOOL BENEFITS OUR YOU

UNDERSTAND GRADUATE STUDENTS SO

THEY ARE NOT MUTUALLY EXCLUSIVE

ISSUES.

I HAVE SEEN GREAT ADVANTAGES TO

MYSELF AND ONE OF THE BEST

ADVANTAGES THAT I CAN TELL YOU

IS FROM DEALING WITH MY NURSE

COLLEAGUES, I HAVE A BETTER

APPRECIATION OF THE PHENOTYPE

THAT I WANT TO INVESTIGATE AND

I'LL GIVE YOU A REALLY GOOD

EXAMPLE.

SOME OF MY NIH FUNDED RESEARCH

IS LOOKING AT THE CONTRIBUTIONS

OF MOLECULAR VARIATION THAT

ACCOUNTS FOR RECOVERY AFTER

TRAUMATIC BRAIN INJURY.

SO, THAT'S WHY I LOVE HEARING

DR. GUTTMACHER TALK BECAUSE I

WAS LOVE TO JUST PICK UM HUM UP

AND PLOP HIM IN STUDY SECTION SO

PEOPLE REALIZE THIS IS STUFF BEE

NEED TO BE DOING.

WE NEED TO BE LOOKING AT HOW THE

GENETIC VARIATION THAT WE BRING

TO THE TABLE OF OUR -- FOR FOES

WHO -- FOLKS WHO SUSTAINED, HOW

YOU RECOVER CAN BE VERY

VARIABLE.

AND I DID NOT HAVE AN

APPRECIATION FOR PATIENT OUTCOME

UNTIL I CAME TO THE SCHOOL OF

NURSING.

SO A BIG CHUNK.

MY RESEARCH TRAJECTORY, I OWE TO

COLLABORATIONS WITH MY NURSE

COLLEAGUES.

SO I HAVE BY-AND-LARGE

ENCOUNTERED A LOT OF ADVANTAGES

FROM BEING IN A SCHOOL OF

NURSING.

I WOULD SAY A DISADVANTAGE HAS

ALSO BEEN SOMEWHAT OF AN

ADVANTAGE.

SO I AM AN AUDITEE.

SO WHEN I GO TO THE ISONG

MEETINGS, I KNOW THAT I AM ONE

OF THE FEW NON-NURSE MEMBERS OF

ISONG.

SO IT IS -- I AM A LITTLE BIT OF

AN ODDITY.

AND SOMETIMES THAT GIVES YOU A

FEELING LIKE YOU WANT PEOPLE WHO

ARE LIKE YOU AND UNDERSTAND YOU,

SOMETIMES IT'S DIFFICULT TO BE

ODD.

BUT AT THE SAME TIME, THAT

ODDITY IS ACTUALLY BEEN AN

ADVANTAGE TO ME.

THE PRESIDENT OF THE AMERICAN

SOCIETY OF HUMAN GENETICS

INVITED ME TO BE A MEMBER OF THE

INFORMATION AND EDUCATION

COMMITTEE FOR 3 YEARS FOR THE

SOCIETY AND THAT WAS BASED ON MY

UNIQUE ROLE AS A NURSE EDUCATOR.

AND SO BEING ODD HAS ITS

ADVANTAGES AND DISADVANTAGES.

YOU MIGHT THINK THE ODDITY HAS

BEEN MORE THAN ADVANTAGE OVER

THE YEARS.

SO, WHAT HAVE WE DONE?

SO I KNOW THAT THERE IS LESS

ADVOCACY FOR A STAND ALONE

COURSE THAN SOME OF THE OTHER

MODELS YOU HAVE PROBABLY HEARD

ABOUT.

BUT I ADVOCATED REAL STRONGLY

FOR A FULL SEMESTER GENETICS,

GENOMICS, MOLECULAR THERAPEUTICS

COURSE FOR OUR UNDERGRADUATE

STUDENTS.

AND SINCE THE YEAR 2000, ALL OF

OUR UNDERGRAD STUDENTS HAVE BEEN

REQUIRED TO TAKE A FULL SEMESTER

OF GENETICS COURSE.

FOR OUR OTHER DOCTORAL STUDENTS

AS WELL AS OUR SPECIALTY ROLE

STUDENTS, THE COURSE IS AN

ELECTIVE, HOWEVER, LET ME GIVE

YOU BACKGROUND ABOUT WHY I

ADVOCATE FOR THE STAND ALONE

COURSE.

I ALSO ADVOCATE FOR THE

THREADING AND INTEGRATION

THROUGHOUT THE CURRICULUM.

I THINK IT'S A VERY IMPORTANT

PIECE BECAUSE AS YOUR STUDENTS

MOVE THROUGH THE CURRICULUM IT'S

VERY IMPORTANT WE SHOW

SOLIDARITY HERE.

IF YOU HAVE FACULTY NOT

INCORPORATING WHEN IT'S

APPROPRIATE, OUR FACULTY NEED TO

BE INCORPORATING IT BECAUSE WE

NEED TO THREAD THAT AND SHOW

STUDENTS WE HAVE

SOLBEIRUTIDARITIY AND WHAT THEY

ARE LEARNING IN THAT SEMESTER IN

THE STAND ALONE COURSE IS BEING

APPLIED.

SOLIDARITY.

I ADVOCATED FOR THE FULL

SEMESTER STAND ALONE COURSE

BECAUSE MY PHILOSOPHY IN

TEACHING IS, IF YOU TEACH THE

STUDENTS THE SCIENTIFIC BASIS OF

GENETICS AND GENOMICS, YOU HAVE

NOW EMPOWERED THEM TO UNDERSTAND

WHAT IS CURRENTLY GOING ON IN

GENETICS AND GENOMICS AND

EMPOWERED THEM TO UNDERSTAND

WHAT IS GOING TO HAPPEN 10 YEARS

FROM NOW.

THAT IS INCREDIBLY IMPORTANT

BECAUSE AS WE ALL KNOW, WE ARE

RIGHT NOW AT THE TIP OF THE

ICEBERG.

FOR UNDERSTANDING GENETICS,

GENOMICS, HOW OUR GENOME WORKS,

HOW THE ENVIRONMENT WORKS WITH

OUR GENES, WE ARE ONLY SEEING

THE TIP OF THE ICEBERGING AND AS

FAR AS TRANSLATION TO HEALTH

CARE AND CONCERNS.

WE ARE NOT EVEN AT THE TIP OF

THE ICEBERG YET.

SO EMPOWER YOUR STUDENTS BY

MAKING SURE THEY UNDERSTAND THE

BASIC SCIENCE OF -- SCIENCE OF

GENETICS AND GENOMICS AND THAT

WILL SERVE THEM WELL INTO THE

FUTURE.

THIS MAY SOUND SCARY BUT THAT'S

WHY SOMETIMES YOU NEED TO BRING

IN SOMEONE WHO CAN DO THAT IF

YOU DON'T FEEL COMFORTABLE DOING

THAT YOURSELF.

AND I'LL TALK A LITTLE BIT ABOUT

WHERE YOU CAN FIND THESE

EXPERTS.

I ADVOCATE FOR THIS

BECAUSE -- FOR INTEGRATION

THROUGHOUT THE CURRICULUM

BECAUSE I THINK WE NEED TO SHOW

OUR STUDENTS RESOURCES THAT THEY

CAN USE TO CARRY THEMSELVES

FORWARD.

I THINK THAT REALLY GOOD EXAMPLE

IS A LOT OF US WILL TALK ABOUT

ONCOTYPING IN OUR COURSES.

SO ONCOTYPE DX IS A TEST THAT

LOOKS AT THE LEVEL OF GENE

EXPRESSION OF A BATTERY OF GENES

IN BREAST CANCER CELLS.

AND WE USE A LOT OF THAT

INFORMATION FOR PROGNOSTICATING.

WE USE A LOST INFORMATION FOR

FIGURING OUT WHAT INTERVENTION,

WHAT CHEMOTHERAPY MIGHT WORK

BEST FOR SOME OF THESE

INDIVIDUALS.

AND IT'S BASED ON THE GENE

REGULATION THAT IS GOING ON IN

THEIR CANCER CELLS.

NOW, IF YOU TALK ABOUT THAT
WITHOUT DISCUSSING WITH YOUR
STUDENTS SOME OF THE BACKGROUND
SCIENCE IN GENE REGULATION AND
GENE EXPRESSION, AND THE NEXT
TIME, THE NEXT TEST COMES ALONG
THAT USES A LOT OF THE SAME TYPE
OF INFORMATION, THEY ARE GOING
TO HAVE TO RELEARN.
BECAUSE THEY ARE LEARN BEING A
NEW TEST.
IF THEY LEARN THE UNDERLYING
SCIENCE BEHIND THESE TESTS, ITS
NEXT TIME A NEW TEST COMES OUT,
THEY ARE NOT GOING TO HAVE TO
REEDUCATE THEMSELVES.
THEY ARE GOING TO SAY, THIS IS
JUST ANOTHER APPLICATION FOR
THAT SCIENCE.
SO IF WE TEACH THEM ABOUT GENE
REGULATION AND EXPRESSION AND
TELL THEM HOW OUR ENDOGENOUS
ENVIRONMENT, HORMONES, AS WELL
AS OUR EXOGENOUS ENVIRONMENT
SUCH AS MICRONUTRIENTS,

VITAMINS, MEDS.

HOW THOSE ACTUALLY INTERACT WITH

OUR GENES TO TURN THEM ON AND

OFF, EXPLAIN THE SCIENCE THATCH

TO THEM, THE NEXT MED THAT COMES

ALONG THAT INTERACTS WITH THE

GENE AND THAT IS THE MECHANISM.

ACTION, THEY WILL UNDERSTAND

THEY WILL GET IT.

EVEN THOUGH THAT MED MAY NOT BE

OUT FOR ANOTHER 5-10 YEARS.

THAT WAS MY BIGGEST ADVOCACY FOR

A STAND ALONE COURSE.

IF WE COULD GET THE SCIENCE

ACROSS WITH WITHIN THAT FULL

SEMESTER COURSE AND INTEGRATE

THROUGHOUT THE CURRICULUM, THEN

I THINK WE WOULD BE SETTING OUR

STUDENTS UP FOR THE BEST SUCCESS

FOR THE FUTURE.

SO WE DO HAVE SEPARATE COURSES

FOR UNDERGRADUATE AND GRADUATE

STUDENTS.

AND I'LL TALK A LITTLE BIT ABOUT

THAT LATER WHEN I TALK ABOUT MY

ADVICE TO YOU GUYS BECAUSE ONE
OF THE THINGSA THAT WE DID NOT
START OUT DOING WAS SEPARATE AND
LEARNED VERY QUICKLY WE NEEDED
TO DO THAT.
WE DO CROSS LIST OUR GRADUATE
COURSE AND I WILL TALK TO YOU
ABOUT THE ADVANTAGES OF THAT,
WHAT IT BRINGS TO THE TABLE FOR
THAT GRADUATE COURSE.
WE DO HAVE OTHER FULL SEMESTER
OFFERINGS.
WE HAVE A MINOR IN GENETICS AS
WELL AS A POSTBAC AND A POST
MASTERS HEALTH CARE CERTIFICATE
IN GENETICS WE OFFER TO OUR
STUDENTS.
AND A LOT OF THE FULL SEMESTER
COURSES WE HAVE BEEN ABLE TO
DEVELOP AS ELECTIVES AND THESE
ADDITIONAL COURSES, THOSE HAVE
COME ABOUT BECAUSE OF THE
TRAINING GRANT WE BOUGHT THROUGH
THE NINR.
SO AGAIN, YOU SEE A LOT OF

THINGS INTERTWINING TO PULL IN

RESOURCES AND THEN HOW IT HELPS

OUR STUDENTS.

SO OUR UNDERGRAD STUDENTS ARE

WELCOME TO TAKE GRADUATE LEVEL

ELECTED COURSE.

WE ENCOURAGE IT IN THEIR LAST

SEMESTER OF COURSE WORK BECAUSE

THE WAY THE UNIVERSITY OF

PITTSBURGH WORKS IS THAT

AUTOMATICALLY BECOMES A GRADUATE

COURSE YOU CAN APPLY TOWARDS

YOUR GRADUATE EDUCATION DEGREE.

SO WE DO ADVOCATE FOR STUDENTS

TO TAKE GRADUATE LEVEL CLASSES.

SO, I'M NOT SUGGESTING THAT

EVERYBODY GO OUT AND HIRE

SOMEONE.

BRING SOMEONE IN TO TEACH

GENETICS.

ESPECIALLY IN OUR CURRENT

ECONOMIC ENVIRONMENT WHERE IT'S

HARD TO BRING IN ANYBODY.

BUT, TO REALLY GIVE SOME THOUGHT

TO -- IF YOU DON'T FEEL

COMFORTABLE, WOULD YOU FEEL MORE

COMFORTABLE BRINGING SOMEONE IN

TO EITHER HELP CO-TEACH A COURSE

WITH YOU, LECTURE IN YOUR

COURSES, OR MAYBE EVEN BRING

SOMEONE IN TO TEACH A STAND

ALONE COURSE TO YOUR NURSING

STUDENTS FROM SOMEWHERE ELSE

CAMPUS?

SO IN OTHER WORDS YOU'RE NOT

HIRING SOMEONE.

THE UNIVERSITY AND YOUR SCHOOL

OF NURSING IS NOT HIRING

SOMEONE.

YOU'RE USING EXPERTISE FROM

ELSEWHERE ON CAMPUS.

AND WE USE THIS A LOT AT THE

UNIVERSITY OF PITTSBURGH.

WE ACTUALLY OL - A LOT OF OUR

UNDERGRADUATE MORE BASIC SCIENCE

COURSES ARE NOT TAUGHT BY SCHOOL

NURSING PACK TOO.

WE BRING IN FOLKS FROM OTHER

SCHOOLS IN THE HEALTH SCIENCES

TO TEACH THE COURSES FOR US.

AND THAT WORKS OUT OLLIE WELL

BECAUSE EVERYBODY DOES WHAT AT A

DO BEST.

AND OUR STUDENTS BENEFIT FROM

IT.

SO, IT IS SOMETHING THAT I THINK

EVERYONE HERE NEEDS TO

ENTERTAIN.

GOING OUT AND LOOKING ON CAMPUS

AND SEEING WHO YOU HAVE

AVAILABLE TO YOU TO BRING IN AND

HELP YOU TEACH THESE COURSES.

AT LEAST IN THE BEGINNING.

AND THEN AS YOU FEEL MORE

COMFORTABLE WITH THE CONTENT,

MOVE TOWARDS RELYING MORE ON

YOUR OWN IN HOUSE FACULTY.

SOME OF THE BARRIERS WE

ENCOUNTERED.

AGAIN, WE HAD THAT UPPER-LEVEL

BUY IN FROM THE ADMINISTRATION.

BUT I ENCOUNTERED A LOT OF

FACULTY WHO REALLY WEREN'T SURE

WHY WE WERE BRINGING IN GENETICS

INTO THE CURRICULUM.

WHO REALLY WEREN'T SURE WHY WE
NEEDED TO EVEN HIRE SOMEONE TO
THINK ABOUT BRINGING THIS INTO
THE CURRICULUM.
AND SO THAT BARRIER, ONE OF THE
WAYS THAT WE CAME UP TO DEAL
WITH THAT BARRIER, BECAUSE WE
THOUGHT THAT MAYBE SOME OF THE
BARRIER WAS IGNORANCE.
AND SO, WE MOVED AHEAD WITH
FACULTY WORKSHOPS.
WE HAD 4, HALF DAY FACULTY
WORKSHOPS SPREAD OUT OVERPOWER
WEEKS.
IT WAS ELECTIVE AND IN SOME
RESPECTS WE WERE PREACHING TO
THE CHOIR TO THE FOLKS WHO
SHOWED UP TO THESE WORKSHOPS.
HOWEVER, IN THE END, I THINK
WHAT THESE WORKSHOPS DID WAS
THEY GAVE FACULTY A LITTLE BIT
MORE EMPOWERMENT BECAUSE THEY
NOW HAD MORE OF AN UNDERSTANDING
ABOUT GENETICS AND GENOMICS AND
HOW IT WAS IMPACTING CLINICAL

CARE.

CLINICAL CARE IN THEIR ARENA,

THEIR AREA OF EXPERTISE.

THEY WEREN'T NECESSARILY FULLY

APPRECIATIVE OF.

SO ONCE FACULTY REALIZED HOW

MUCH BACK IN 2000 GENETICS AND

GENOMICS WAS GETTING INTO THE

HEALTH CARE SYSTEM, THEN THEY

REALIZED THAT MAYBE THIS IS

SOMETHING I NEED TO BE PAYING

ATTENTION.

TO THE OTHER THING WAS, BRINGING

FACULTY ONBOARD GIVING THEM

EMPOWERMENT WITH A BETTER

UNDERSTAND OF GENETICS AND

GENOMICS, LETTING THEM KNOW WHAT

KIND OF EXPERTISE THEY COULD

PULL UPON AND THEN ALSO GIVING

THEM IDEAS ABOUT WHERE TO GO AND

GET MORE INFORMATION IF THEY

NEEDED TO BE BROUGHT FOR

UP -- MORE UP-TO-DATE IN THEIR

AREA OF EXPERRITIES.

THAT WAS PASSED ALONG TO THE

STUDENTS.

SO WE HAD NURSING FACULTY WHO

NOW FELT EM POWDERS AND

EMPASSIONED AND THEN BROUGHT

THAT INTO THEIR COURSES AND THAT

WAS PASSED ALONG TO THE

STUDENTS.

SO REALLY WE TOOK THIS TOP DOWN

APPROACH WHERE WE HAD BUY IN

FROM THE ADMINISTRATION AND THEN

BROUGHT IN THE REST OF THE

FACULTY THROUGH EDUCATION.

ANOTHER BARRIER THAT I

ENCOUNTERED AND SOME OF YOU MAY

HAVE THIS SITUATION WHERE I HAVE

IMPORTANT ISED ALSO.

OTHERS SCHOOLS ON CAMPUS,

SCHOOLS IN THE HEALTH SCIENCES.

HAD NO IDEA WHAT WE'RE DOING AT

THE SCHOOL OF NURSING.

AND SO THIS IS TRUE I THINK OF

ALL CAMPUSES.

A LOST TIMES YOU DON'T REALIZE

WHAT IS GOING TO DOWN THE

STREET.

YOU MAY KNOW MORE ABOUT WHAT IS
GOING ON ACROSS THE COUNTRY THAN
WHAT IS GOING ON DOWN THE
STREET.
AND THIS WAS EXACTLY WHAT WAS
GOING ON AND I WOULD TALK TO
COLLEAGUES OUT OF THE SCHOOL OF
NURSING AND TOLD THEM WHERE I
WAS RESIDING.
THEY HAD NO IDEA THE GREAT
THINGS THAT THE SCHOOL OF
NURSING WAS UP TO.
THE RESEARCH THAT WAS GOING ON
THERE.
THE CURRICULUM THAT HAD BEEN
DEVELOPED.
THE EXTENT OF EDUCATION THAT WE
COULD OFFER NURSES AT THE SCHOOL
OF NURSING.
THEY HAD NO IDEA AND SO I WAS
OUT THERE ADVOCATING FOR THE
SCHOOL OF NURSING AND YOUR
PROFESSION WITH ALL OF THE
NON-NURSE PEOPLE TO BRING THEM
UP-TO-DATE BECAUSE PEOPLE DIDN'T

HAVE AN APPRECIATION OF THE

AWESOME THINGS THAT WERE GOING

TO AT THE SCHOOL.

SO THAT WAS A BARRIER FOR A

LITTLE WHILE.

MOST OF THESE BARRIERS ARE NOW

GONE.

I WISH I COULD SAY EVERY FACULTY

MEMBER NOW IS RAWRA INTO

GENOMICS.

--RARA.

BUT AT LEAST THEY ARE

LIKE -- OKAY.

[LAUGHTER]

IT'S BETTER.

WE HAVE BUILT A LARGE CADRE OF

FOLKS WHO ARE NOT ONLY

INTERESTED IN GENETICS AND

GENOMICS BUT NOW ARE ADVISING

STUDENTS WHO ARE INTERESTED IN

GENETICS AND GENOMICS.

IF YOU'RE A FACULTY MEMBER AT

THE UNIVERSITY AND YOU'RE NOT

INTO GENETICS AND GENOMICS,

VERBALLY A STUDENT WILL COME

ALONG WHO WILL GET YOU INTO IT

BECAUSE OUR STUDENTS ARE ALSO

PUSHING.

EVENTUALLY A STUDENT WILL COME

ALONG.

SO SOME OF THESE SUCCESSES, THE

STUDENT FEEDBACK HAS BEEN

WONDERFUL AND NOTHING IS MORE

HART WARMING THAN HAVING A

STUDENT WHO IS TAKING YOUR

CLASS, COME UP TO YOU AND SAY,

YOU'RE NOT GOING TO BELIEVE WHAT

I SAW AT CHILDREN'S HOSPITAL

TODAY.

AND I ACTUALLY UNDERSTOOD WHAT

WAS GOING ON.

OR, I WAS IN THE ADULT CANCER

RISK ASSESSMENT CLINIC DOWN AT

THE HOSPITAL AND YOU'RE NOT

GOING TO BELIEVE IT.

I COMPLETELY UNDERSTOOD WHAT WAS

THEY WERE TALKING ABOUT.

AND IT'S SO HEART WARMING TO

KNOW THAT YOU PARTICIPATED IN

THAT.

AND I HAD STUDENTS SAY TO ME, I
WAS AT CHILDREN'S HOSPITAL AND I
SAW A CHILD WITH -- A PARTICULAR
CONDITION.
I THOUGHT YOU MADE THAT UP.
IT SOUNDED SO ODD THAT IT
COULDN'T POSSIBLY BE REAL.
AND I SAID, YOU KNOW, NATURE IS
ODD ENOUGH.
WE DON'T NEED TO MAKE THINGS UP.
AND SO, THE STUDENTS REALLY
BROUGHT THAT FORWARD AND THEIR
FEEDBACK HAS BEEN WONDERFUL.
THE OTHER THING I THINK IS WHEN
WE BEEN BENEFITS TO THE CLINICAL
SITES, OUR UNDERGRAD STUDENTS
ARE OUT THERE A LOT OF TIMES
EDUCATING STAFF NURSE WHOSE DID
NOT HAVE GENETICS OR GENOMICS AS
PART OF THEIR CURRICULUM.
SO THE NUMBER OF TIMES I HAD
STUDENTS SAY, WE SAW SOMEONE
WITH THIS RARE DISEASE AND
NOBODY REALLY KNEW WHAT TO DO.
AND SO, I TOOK THEM TO ONLINE

MANDELIAN ENHANCES LIKE YOU TOLD

US TO DO.

WE LOOKED IT UP.

AND WE FOUND OUT THE CLINICAL

SYNOPSIS IS WHAT THE GENE IS AND

WE WENT TO SEE IF TESTING WAS

AVAILABLE.

AND THEY ALSO EMPOWERED THAT

STAFF NURSE AT THE HOSPITAL TO

ALSO UNDERSTAND A LITTLE BIT

MORE ABOUT GENETICS OR GENOMICS

THAN WHAT AT A DID BEFORE THEY

CAME ON THE JOB THAT DAY.

SO THERE IS BENEFITS.

THERE IS A WHOLE TRICKLE DOWN

INTO THE CLINICAL SITES BY

HAVING OUR STUDENTS HAVE THIS

EDUCATION AND THEN BRING IT TO

THE CLINICAL SITES.

WE DO NOW HAVE RECOGNITION

ACROSS CAMPUS.

WE HAVE, ESPECIALLY IN OUR

GRADUATE GENETICS COURSE, WE

HAVE A FAIR NUMBER OF NONNURSING

STUDENTS THAT REGISTER FOR OUR

NURSING GENETICS CLASS.

AND I HAVE TO TELL YOU, A LOT OF

IT IS BECAUSE WE BRING TO THE

BASIC SCIENCE PIECE OF GENETICS

AND GENOMICS.

WE BRING IN THE CLINICAL

ASPECTS.

SO, WE USE THE SAME TEXTBOOK AS

THE FOLKS THAT ARE IN -- WHO ARE

BIOLOGY MAJOR.

WE USE THE EXACT SAME TEXTBOOK.

BUT IT IS A COMPLETELY DIFFERENT

LECTURE COURSE.

BECAUSE WE BRING IN THE CLINICAL

ASPECTS THAT THE FOLKS DOWN IN

THE DEPARTMENT OF BIOLOGY ARE

NOT GETTING.

WE GOT A LOT OF FOLKS WHO

REGISTER FOR OUR COURSE.

A LOT HAS TO DO WITH THE FACT

THAT IT'S CROSS LISTED.

SO WHAT THAT MEANS IS THE

GRADUATE GENETICS COURSE OFFERED

THROUGH THE SCHOOL OF NURSING IS

CROSS LISTED AND ALSO OFFERED TO

THE DEPARTMENT OF HUMAN

GENETICS.

SO A LOT OF TIMES, YOU'RE LIKE

STUDENTS LOOKING FOR

INTRODUCTORY BASIC GENETICS

COURSE AT THE GRADUATE LEVEL.

THEY WILL GO TO THE DEPARTMENT

OF HUMAN GENETICS AND SAY, I'M

GOING TO REGISTER FOR THEIR

COURSE.

THEN THEY FIND OUT WHEN THEY

SHOW UP THAT IT'S CROSS LISTED

WITH THIS NURSING COURSE.

IT'S GREAT.

BECAUSE OF THE DIVERSITY IN

STUDENT BODY THAT THEN SHOWS UP

THAT THE GRADUATE COURSE.

EVERY TIME WE OFFER THIS COURSE,

WE HAVE EPISTUDENTS,

REHABILITATION SCIENCE STUDENTS,

COMMUNICATION DISORDER STUDENTS,

DENTAL MEDICINE STUDENTS, IN

THERE WITH NURSING STUDENTS WHO

AGAIN BRING A BROAD ARRAY OF

EXPERTISE TO THE TABLE

THEMSELVES.

AND THE DIALOGUE THAT YOU HAVE

BECAUSE OF THE DIVERSITY AND

BACKGROUND OF THESE STUDENTS IS

AMAZING.

SO WE REALLY HAVE PUT THE WORD

OUT ACROSS CAMPUS EITHER THROUGH

CROSS LISTING OR BECAUSE OF WORD

OF MOUSE AND PEOPLE ARE

REGISTERING FOR THE NURSING

COURSE.

NOW, BY ALLOWING

OTHER -- STUDENTS FROM OTHER

DISCIPLINEOS CAMPUS TO COME IN

AND TAKE THIS GENETICS CLASS,

THAT THEN ALLOWS US A LITTLE

BARGAINING CHIP TOP SAY, WE NOW

NEED YOUR EXPERTISE TO COME IN

AND GIVE A LECTURE OR PROVIDE A

PIECE OF THIS COURSE.

AND THERE IS A LITTLE BIT OF

THAT BACK AND FORTH.

WE ARE SUPPLYING YOUR STUDENTS

WITH SOMETHING, CAN YOU SUPPLY

OUR STUDENTS WITH SOMETHING.

AND THEY REALLY GET THE
SCRATCHING OF THE BACK THING
THAT GOES ON A LITTLE BIT.
THE T32 WE HAVE NOW, THIS IS FOR
PREDOCK STUDENTS AS WELL AS
POSTDOC FELLOWS.
AND WHILE THAT IS NOT REALLY
WHAT WE ARE HERE TO TALK ABOUT,
I CAN'T SAY ENOUGH ABOUT HOW YOU
NEED TO ALSO GIVE SOME THOUGHT
TO BRINGING ON SOME RESOURCES
INTO YOUR SCHOOL THAT CAN SHOW,
THAT CAN BE AN EXEMPLAR OF HOW
YOUR SCHOOL IS MOVING FORWARD
WITH GENETIC AND GENOMIC
INTEGRATION.
AND ONE OF THE WAYS THAT YOU CAN
DO THAT IS TO BRING IN SOMETHING
LIKE A TRAINING PROGRAM.
ESPECIALLY IF YOU'RE AT A
RESEARCH INTENSIVE UNIVERSITY.
THE RESOURCE THAT IS COME ALONG
WITH THAT THAT BENEFIT OUR
UNDERGRADUATE STUDENTS ARE
IMMENSE.

THOSE OTHER COURSE THAT IS HAD
TO BE DEVELOPED ADDS PART OF
THAT TRAINING PROGRAM THAT IS
NOW AVAILABLE TO OUR
UNDERGRADUATE STUDENTS.
IT BRINGS IN MORE STUDENTS, MORE
POSTDOC FELLOWS AND AS A RESULT,
IT HAS BROUGHT IN MORE FACULTY
THAT ARE INVOLVED WITH GENETICS
AND GENOMICS.
THAT OPENS UP RESEARCH
OPPORTUNITIES FOR UNDERGRADUATE
STUDENTS.
A LOT OFURE STUDENTS PARTICIPATE
IN RESEARCH AS A RESULT A FAIR
NUMBER ARE INTERESTED IN GENETIC
AND GENOMIC RESEARCH.
AND THE OTHER THING THAT IT
BRINGS IN IS SOME OTHER
RESOURCES THAT THE T32 BRINGS IN
LIKE A JOURNAL CLUB THAT WE
HAVE.
SO WE ARE REALLY DIVERSIFYING
OURSELVES ACROSS THE CURRICULA
BY OFFERING MANY DIFFERENT

THINGS, ELECTIVE AND REQUIRED

FOR OUR STUDENTS.

SO OUR STUDENTS SEE A WHOLE MEN

YOU -- MENU OF THINGS THEY CAN

DO AT THE SCHOOL AND IT'S NOT

JUST SOMETHING THAT WILL GET A

TASTE OF HERE AND THERE.

SO A COUPLE OF NUGGETS OF

ADVICE.

SO YES, I THINK THAT YOU HAVE

HEARD FROM OTHER FOLKS USE THE

COMPETENCY TO GUIDE THE COURSE

OBJECTIVES.

IT'S WONDERFUL A LOT OF WHAT HAS

BEEN DEVELOPED AND WHAT IS OUT

THERE WAS DEVELOPED WITH WITH

BLOOM TAXONOMY BECAUSE IT MAKES

IT EASIER TO INTEGRATE INTO YOUR

OBJECTIVES.

WHICH IS SOMETHING OUR SCHOOL IS

REALLY BIG ON.

THOSE LEVELS, MAKING SURE IT'S

AT THE RIGHT LEVEL.

AND INCORPORATE CLINICAL

EXAMPLES AS MUCH AS POSSIBLE.

LIKE I MENTIONED BEFORE, THE

SCHOOL NURSING COURSE APART FROM

ANY OF THE OTHER COURSES OFFERED

ON CAMPUS.

FOR NURSING STUDENTS, REALLY

HELPS BRING IT TO REALITY.

THEY CAN SEE HOW THEY MAY BE

ABLE TO USE IT IN CLINIC OR

REMEMBER A CLINICAL EXPERIENCE

THAT THEY HAD AND BRING IT INTO

REAL LIFE FOR THEM.

I ARE I MENTIONED UNDERGRADUATE

STUDENTS ARE DIFFERENT FROM

GRADUATE STUDENTS.

WHEN WE FIRST STARTED OUT, WE

THOUGHT, UNDERGRAD STUDENTS AND

GRADUATE STUDENTS NEED THE ARE

THE SAME TOPIC.

THEY NEED THE SAME INFORMATION.

WHY SHOULD WE PUT OURSELVES OUT

THERE?

LET'S HAVE A COMBINED COURSE.

WE'LL HAVE, ASSIGN A DUAL NUMBER

BUT EVERYBODY WILL SIT THERE

TOGETHER AND MAYBE WE EVALUATE

THEM A LITTLE BIT DIFFERENTLY
DEPENDING ON WHAT THEY HAVE
REGISTERED FOR, BUT THE DELIVERY
OF THE CONTENT WILL BE THE SAME.
BECAUSE EVERYBODY GETS THE SAME
TOPIC.
WE STARTED TO REALIZE WHAT HAS
BEEN MENTIONED HERE.
IT'S THE RECIPROCAL OF YOU WHAT
MIGHT THINK FOR OTHER TOPICS.
THE UNDERGRADS ARE COMING IN ALL
READY WITH AN APPRECIATION OF
GENETICS AND GENOMICS AS WELL AS
PRETTY DECENT FOUNDATION OF SOME
OF THE BASICS, ESPECIALLY WHEN
IT COMES TO INHERENT PATTERNS.
AND OUR GRADUATE STUDENTS DID
NOT HAVE HAVE THAT.
THEY EITHER -- THEY DIDN'T HAVE
IT IN NURSING UNDERGRAD
CURRICULUM AND PROBABLY NOT IN
THEIR HIGH SCHOOL CURRICULUM AND
DIDN'T HAVE THE APPRECIATION.
SO WHAT WE REALIZED WAS IF WE
SEPARATED THE TWO COURSES, THE

UNDER GRADS NEEDED A LITTLE BIT

MORE TIME SPENT ON THE CLINICAL

APPLICATIONS WHEREAS THE

GRADUATE STUDENTS YOU STILL HAD

THE CLINICAL APPLICATIONS BUT

THEY GOT BACK MORE QUICKLY BUT

YOU HAD TO SPEND MORE TIME ON

SOME OF THE EARLIER THINGS.

SOME OF THE MORE BASIC THINGS.

YOU WOULD BE SURPRISED HOW MANY

GRADES STUDENTS IN OUR GENETIC

COURSES HAVE NOT DONE A PUNDIT

SQUARE BEFORE.

IF THEY HAVE, IT'S BECAUSE THEY

SAT DOWN WITH THEIR CHILD THAT

IS IN SEVENTH GRADE AND WATCHED

THEM DO A PUNDIT SQUARE.

SO THESE ARE THE THINGS WE WERE

DEALING WITH.

NOW WE SEPARATED THEM FOR

LOGISTICAL PURPOSES AND THEY

REMAIN SEPARATED NOW.

I CAN'T EMPHASIZE ENOUGH, WHEN

YOU CAN USE ONLINE RESOURCES.

LIKE JUDY MENTIONED, DON'T

REINVENT THE WHEEL.

THAT'S ONE REASON.

BUT I CAN'T EMPHASIZE ENOUGH IF

YOUR JOB AS A TEACHER IS TO MAKE

SURE THAT YOU'RE EMPOWERING YOUR

STUDENTS FOR THE FUTURE, GIVE

THEM TOOLS THAT ARE GOING TO

GROW WITH THE FUTURE.

SO IF YOU GIVE THEM A TEXTBOOK,

AND 5 YEARS FROM NOW THEY OPEN

THAT TEXTBOOK, IT'S GOING TO BE

COMPLETELY OUT-OF-DATE.

IT'S QUITE SAD.

I KEEP MY OLD GENETICS TEXTBOOKS

SO I CAN GO BACK AND APPRECIATE

WHAT HAPPENED OVER THE LAST

10-15-20 YEAR OLDS.

SO, THAT'S NOT GOING TO DO IT

FOR THEM.

IF YOU'RE GOING TO EMPOWER YOUR

STUDENTS, INTRODUCE THEM TO THE

ONLINE, ONGOING CONSTANTLY

UPDATED WEBSITE AND ONLINE

RESOURCES SO A YEAR FROM NOW

WHEN THEY ENCOUNTER SOMETHING,

YOU TAUGHT THEM WHAT TOOLS TO

USE.

THEY CAN GO OUT THERE AND THAT

POOL WILL BE UPDATED A YEAR FROM

NOW.

AND OF COURSE MAKE SURE THAT

THEY ARE GOOD WEB SITES FROM

GOVERNMENT AND EDUCATIONAL

INSTITUTIONS AND THINGS LIKE

THAT.

BUT EMPOWER YOUR STUDENTS FOR

THE FUTURE BY INTRODUCING THEM

TO SOME OF THESE ONLINE TOOLS

THAT ARE CONSTANTLY KEPT

UP-TO-DATE.

BRING IN CONTENT EXPERTS WHEN

APPROPRIATE.

AGAIN, WITH ALL OF THE

TECHNOLOGY THAT WE HAVE TODAY,

THIS DOESN'T HAVE TO BE SOMEONE

AT YOUR UNIVERSITY.

IF YOU FEEL LIKE THE MOST

APPROPRIATE PERSON TO DELIVER

SOME CONTENT FOR YOUR COURSE IS

ACROSS THE COUNTRY, THERE ARE

WAYS TO BRING THAT PERSON IN

WITHOUT PHYSICALLY BRINGING THEM

IN TO GIVE A LECTURE IN YOUR

COURSE.

TAKE ADVANTAGE OF THE

TECHNOLOGY.

WAY BACK WHEN WHEN THIS

TECHNOLOGY WASN'T AS WELL

DEVELOPED,EE BROUGHT EXPERTS TO

PITTSBURGH.

AND TAPED THEM DELIVERING

LECTURES AND USED THOSE TAPED

LECTURES FOR YEARS.

BECAUSE WHAT THAT DID FOR OUR

NURSING STUDENTS WAS IT SHOWED

THEM HOW NURSES WERE

INCORPORATING GENETICISTS INTO

THEIR CLINICAL PRACTICE.

WE DIDN'T HAVE ANYONE WHO COULD

DO THAT FROM THE CAMPUS.

WE HAD TO BRING THEM FROM THE

COUNTRY.

NOW YOU CAN JUST WEB THEM IN.

ALL KINDS OF TECHNOLOGY IS

AVAILABLE.

SO DON'T BE AFRAID BECAUSE THERE

IS EXPERTS OUT THERE TO HELP

YOU.

SO EVENLY IF YOU WHAT DECIDED AT

YOUR SCHOOL'S NURSING YOU'RE

GOING TO -- IT DOESN'T MEAN YOU

STILL NEED TO DO EVERYTHING

BECAUSE IT'S INTEGRATED INTO

YOUR PARTICULAR COURSE YOU HAVE

BEEN DOING FOR 10 YEARS.

BRING IN A CONTENT EXPERT.

OWN UP A LITTLE BIT OF TIME TO

BRING THAT PERSON IN FROM

OUTSIDE.

IT DOESN'T ALWAYS HAVE TO BE A

NURSING COLLEAGUE.

THE STUDENTS HAVE ALWAYS

APPRECIATED THAT I HAVE DONE AT

THE BEGINNING OF EVERY CLASS.

I HAVE A LITTLE NEWS SEGMENT.

AND ESPECIALLY FOR STUDENTS

READING LAY PRESS ON A WEEKLY

BASE.

IF YOU DON'T READ THE LAY PRESS,

GRANTED YOUR STUDENTS PROBABLY

ARE.

SO TO MAKE IT MORE REAL FOR

THEM, YOU CAN DO IT IN THE NEWS

SEGMENT AT THE BEGINNING OF EACH

OF YOUR CLASSES.

HELPS TO KEEP IT REAL.

AND I THINK ONE OF THE IMPORTANT

PIECES THAT YOU CAN DO IS SIGN

UP FOR THE CDC'S PUBLIC HEALTH

GENOMICS WEEKLY UPDATE.

AND WHAT THEY'LL DO FOR YOU IS

E-MAIL TO YOU ONCE A WEEK WHAT

IS OUT THERE IN THE SCIENTIFIC

LITERATURE AS WELL AS THE LAY

PRESS THINGS THAT YOUR STUDENTS

ARE PROBABLY READING.

GIVE YOU A LITTLE FLAVOR FOR

WHAT HAS BEEN OUT THERE.

GIVE YOU RESOURCES TO GET TO THE

ACTUAL SCIENTIFIC LITERATURE TO

BACK IT UP IF YOU WANT TO DO

THAT.

BUT, IT GIVES YOU AN IDEA OF

WHAT YOUR STUDENTS MIGHT BE

READING AND GIVES YOU AN

OPPORTUNITY TO BRING IT IN IN A
VERY FRESH WAY TO YOUR STUDENTS
AND THAT'S BEEN AN IMPORTANT
PIECE OF WHAT I HAVE GOTTEN
FEEDBACK FROM MY STUDENTS ABOUT.
THEY REALLY APPRECIATE THAT.
AND THEN THE LAST THING THAT
I'LL MENTION IS THE UNIVERSITY
OF PITTSBURGH SCHOOL OF NURSING
IS AN ADVOCATE FOR EVIDENCE
BASED PRACTICE AND AS A RESULT,
ALMOST ALL OF OUR COURSES HAVE
TO HAVE A COMPONENT IN IT WHERE
STUDENTS ARE REVIEWING THE
LITERATURE.
AND CRITIQUING THE LITERATURE IN
A VERY SPECIFIC WAY.
WE EVEN HAVE FORMS FOR STUDENTS
TO USE WHEN THEY ARE CRITIQUING
THE LITERATURE.
WHEN THE COURSE, WE DO A
CRITIQUE OF THE LITERATURE FROM
A GENETICS POINT OF VIEW SO
STUDENTS CAN EVALUATE WHAT IS
OUT THERE.

SO THEY CAN UNDERSTAND WHAT THE
DIFFERENCE IS BETWEEN
METANALYSIS VERSES SOMETHING
THAT IS OUT THERE, A CANDIDATE
GENE ASSOCIATION STUDY ON 100
PEOPLE THAT HAS NEVER BEEN
REPLICATED.
SO THERE IS SAY LOT OF
INFORMATION IN THE LITERATURE.
GUIDE YOUR STUDENTS BY PROVIDING
THEM WITH LITERATURE TO READ AND
THEN DISCUSSING THAT LITERATURE.
AGAIN, IF YOU DON'T FEEL
COMFORTABLE DOING THAT, THERE IS
ADVANTAGES TO GET YOUR STUDENTS
OUT THERE AND READING THE
LITERATURE.
IF YOU DON'T FEEL COMFORTABLE,
BRING SOMEONE IN WHO DOES FEEL
COMFORTABLE.
I THINK SHOWING THEM HOW YOU CAN
BRING EVIDENCE BASED PRACTICE
INTO GENETICS MAKES IT VERY REAL
CLINICALLY FOR THEM ALSO.
SO THOSE ARE MY WORDS OF ADVICE.

AGAIN, YOU HAVE MY E-MAIL ON THE
LIST AND FEEL FREE TO E-MAIL ME
ANY TIME.
BUT ALSO IF YOU HAVE QUESTIONS I
THINK THE PANEL WILL ENTERTAIN
THEM.
[APPLAUSE]
[LOW AUDIO]
>> DR. CONNOLLY CAN YOU SHARE
HOW YOU DIFFERENTIATE THE
CONTENT FOR YOUR GRADUATE AND
UNDERGRADUATE COURSE, GENETICS
COURSE.
>> THE TOPICS?
THE WEEKLY TOPICS ARE IDENTICAL.
THE TOPICS THEMSELVES ARE NO
DIFFERENT FOR THE UNDERGRAD
VERSES THE GRADUATE COURSES.
WHAT IS SLIGHTLY DIFFERENT -- I
WILL SAY A BIG DIFFERENCE
BETWEEN THE TWO IS IN THE
GRADUATE LEVEL COURSE I DO COVER
RESEARCH DESIGN.
SO I COVER WHAT AN ASSOCIATION
STUDY IS.

WHAT A LINKAGE STUDY IS.

WHAT A GENOME-WIDE ASSOCIATION

STUDY IS.

WHAT ALL OF THESE THINGS ARE AND

HOW TO, WHEN YOU SEE IT IN THE

LITERATURE, INTERPRET WHAT

YOU'RE SEEING.

THAT'S NOT OF INTEREST TO OUR

UNDERGRAD STUDENTS.

AT LEAST I DON'T THINK IT WOULD

BE WHEN YOU'RE TEACHING A CLASS

THE SIZE OF -- WE HAVE NOW

DIVIDED OUR UNDER GRADUATES UP

SO WE TEACH IT ONCE IN THE FALL

AND ONCE IN THE SPRING AND SO WE

EASTERLY HAVE ABOUT 75 STUDENTS

PER SEMESTER.

BUT THEY ALL USED TO BE GROUPED

TOGETHER INTO 150 STUDENTS IN A

LARGE LECTURE HALL.

SO THAT REALLY IMPIECED SOME OF

YOU WHAT CAN DO AND GRANTED THE

MAJORITY OF STUDENTS WOULD NOT

APPRECIATE THE RESEARCH DESIGN

STUFF.

SO SOME OF THE TOPICS ARE BRIT

DIFFERENT BUT FOR THE MOST PART,

SAME TOPICS.

WE JUST GO INTO DIFFERENT DEPTH

AND I WILL SAY THAT THE

UNDERGRAD AS WELL AS THE GRADE

LEVEL, I NEVER HOLD STUDENTS TO

THE CLINICAL PRESENTATION OF

DISEASE.

AND THIS IS BECAUSE MY

PHILOSOPHY IS IF YOU CAN LOOK IT

UP, I DON'T WANT YOU TO COMMIT

IT TO MEMORY.

I RATHER YOU DEVELOP A BASIC

UNDERSTANDING, UNDERSTAND

GENETICS FROM A CONCEPTUAL POINT

OF VIEW SO YOU CAN THINK ABOUT

THE SITUATION.

YOU CAN ALWAYS LOOK UP WHAT THE

CLINICAL PRESENTATION OF

SOMETHING IS AND THE WEEK AFTER

YOU TAKE AN EXAM, YOU'RE

PROBABLY NEVER GOING TO REMEMBER

WHAT THAT CLINICAL PRESENTATION

WAS.

YOU'RE NOT GOING TO TRUST

YOURSELF SO YOU'RE GOING TO LOOK

IT UP.

A LOT OF GENETIC CONDITIONS ARE

RARE ENOUGH THAT YOU PROBABLY

WON'T TRUST YOURSELF TO YOU WHAT

LEARNED A YEAR AGO, TWO YEARS

AGO, BECAUSE YOU HAVEN'T SEEN IT

SINCE THEN.

SO YOU'RE GOING TO WANT TO LOOK

IT UP.

BUT WHEN IT COMES TO THE

CLINICAL PRESENTATION AND

BRINGING IT TO THE CLINICAL

PHENOMENON.

WE DO THAT A LITTLE BIT LESS IN

THE GRADUATE COURSE.

A LITTLE BIT MORE IN THE UNDER

GRAT COURSE BECAUSE OUR STUDENTS

HAVEN'T DONE AS MUCH CLINICAL.

WHEREAS WHEN YOU'RE TEACHING THE

GRADUATE STUDENTS AND YOU'RE

BRINGING UP SOMETHING THAT IS

KINICALLY RELEVANT, SOME TESTING

FOR EXAMPLE, THEY'LL ALL BE

SHAKING THEIR HEADS.

THEY HEARD ABOUT IT.

YOU FEEL LIKE YOU DON'T NEED TO

GO AS IN DEPTH WITH THE KIN CALL

PRESENTATION -- THE CLINICAL

APPLICABILITY OF THAT PARTICULAR

TOPIC, BUT THEN YOU FIND

YOURSELF NEEDING TO GO INTO MORE

DEPTH ABOUT THE

CONCEPTUALIZATION OF THAT TEST.

WHAT IS DONE WHEN THEY DO THAT

GENETIC TESTING.

THAT SORT OF THING.

AND THEN I WILL SAY WE DO HAVE

ETHICAL, LEGAL AND SOCIAL

IMPLICATIONS WITHIN THE

UNDERGRAD AND GRADUATE COURSE,

HOWEVER, THAT IS SOMETHING AGAIN

THAT HAS BEEN INTEGRATED

THROUGHOUT THE CURRICULUM.

WE DO HAVE A STAND ALONE ETHICS

COURSE AND A STAND ALONE HEALTH

PROMOTION COURSE AND BOTH OF

THOSE COURSE VS ONE DAY SET

ASIDE FOR GENETIC AND GENOMIC

TESTING AND FAMILY DYNAMICS AND

ALL THAT AND ALL THE IMPLICATION

THAT IS GO FORWARD.

AND THAT'S DIFFERENT.

THAT'S ALSO DIFFERENT AT THE

GRADE AND UNDERGRADUATE LEVEL.

THE GRADUATE AND UNDERGRADUATE

LEVEL.

MOST OF THE TOPICS ARE

IDENTICAL.

IT'S JUST HOW IN-DEPTH

CLINICALLY VERSES HOW IN-DEPTH

BASIC SCIENCE SHOULD GO.

IT'S A LITTLE BIT DIFFERENT 14

THE UNDERGRADUATE AND THE

GRADUATE AND THE EVALUATION IS

DIFFERENT.

ESPECIALLY WHEN YOU TALK ABOUT A

LARGE UNDERGRAD CLASS VERSES A

CLASS OF 30 GRADUATE STUDENTS

WHERE YOU CAN DO OR GET MORE

CREATIVE IN HOW YOU EVALUATE

THEM.

>> ON THE TRADITIONAL OR STAND

ALONE COURSES, ARE THEY OFFERED

IN A TRADITIONAL WAY,

FACE-TO-FACE LECTURE OR IS PART

TESTIFY ONLINE OR IS THE WHOLE

COURSE ONLINE?

>> THE COURSE THAT I TAUGHT WAS

TOTALLY ONLINE.

BECAUSE FIRST OF UL, THAT'S WHAT

I WANTED TO DO.

AND SECOND OF ALL, I REALLY

BELIEVE FOR THE STUDENT WHO IS

WORKING FULL-TIME, WHO HAS

FAMILY RESPONSIBILITIES

FULL-TIME, MANY OF WHOM IN THIS

DAY AND AGE ARE THE SOLE SUPPORT

FOR THEIR FAMILIES BECAUSE THEIR

HUSBANDS AREN'T WORKING OR THEIR

WIVES AREN'T WORKING TO BE ABLE

TOL HAVE THE FLEXIBILITY OF

BEING ABLE TO SCHEDULE WHEN

YOU'RE GOING TO LEARN, I FELT

FOR ME THAT WAS VERY IMPORTANT

TO BE SURE THAT THE STUDENTS HAD

AS MUCH CONTROL AS POSSIBLE AS

USING PRINCIPLES OF ADULT

LEARNING.

FACE-TO-FACE, YES, BUT I REALLY

BELIEVE THAT ONLINE LEARNING IS

MORE RIGOROUS.

I BELIEVE THAT YOU CAN'T SIT IN

THE BACK OF THE ROOM AND BE THE

QUIET ONE.

EVERYONE HAS TO HAVE A VOICE.

YOU CAN'T BE THE ONE IN THE

FRONT OF THE ROOM WHO IS

MONOPOLIZING THE TEACHER.

EVERYONE HAS THE OPPORTUNITY TO

PARTICIPATE AND I FEEL THAT AN

ONLINE COURSE ENHANCES LEARNING

IN A WAY THAT A FACE-TO-FACE

COURSE DOESN'T.

>> THE 3 COURSES THAT I

MENTIONED ARE ALSO ONLINE.

THEY ARE OPEN TO OUR CENTER

CREDIT PROGRAMS.

SO THE HUMAN GENETICS COURSES

ONLINE.

TOPICS ARE COVERED ON A WEEKLY

BASIS ASSIGNMENTS SAME WAY WITH

ADVANCED PRACTICE COURSE.

THAT'S A DISCUSSION TOPIC WITH A

DISCUSSION OPPORTUNITY.

AND OUR UNIVERSITY PEOPLE CAN

SIGN UP FOR AS MANY AS 3 COURSES

WITHOUT BEING ENROLLED IN THE

UNIVERSITY.

AND THAT'S BEEN IN PLACE FOR A

LONG TIME AND MANY, MANY NURSES

HAVE TAKEN COURSES FOR

PROFESSIONALS, FOR EXAMPLE,

UNDER THAT FORMAT.

SO THAT'S HOW THESE COURSES ARE

OFFERED AS WELL.

>> AND FOR US AT THE UNIVERSITY

OF PITTSBURGH, THEY ARE

TRADITIONAL FACE-TO-FACE.

THEY ARE WEB ASSISTED.

SO A LOT OF THE LECTURES ARE

VIABLE ONLINE.

THE LECTURES I TALKED ABOUT WE

RECORDED FROM THE EXPERTS.

THOSE ARE AVAILABLE ON DEMAND

THROUGH THE WEB ASSIST.

HOWEVER, THE UNIVERSITY OF

PITTSBURGH TOOK A VERY STRONG

STAND AGAINST ONLINE TEACHING

AND ONLY THIS SEMESTER OPENED UP

ONLINE TEACHING AS A POSSIBILITY

FOR OUR FACULTY.

SO A COURSE THAT WAS 100%

ONLINE.

ONLY THIS SEMESTER, THIS IS THE

FIRST TIME THEY ALLOWED US TO DO

THAT.

SO IT HAS ALWAYS BEEN

FACE-TO-FACE AND BUT SOME OF

THAT DECISION WAS MADE FOR US BY

THE UNIVERSITY.

>> CAN YOU TELL ME WHAT THE

RATIONAL WAS FOR BEING SO

STRONGLY AGAINST ONLINE AT THE

UNIVERSITY OF PITTSBURGH?

>> I WON'T PRETEND TO UNDERSTAND

EXACTLY HOW THE UPPER

ADMINISTRATION AT THE UNIVERSITY

WORKS.

HO EVER, THEIR BIG STAND WAS THE

CALIBER OF TEACHING.

THAT FELT STUDENTS GOT ONLINE

VERSE -- THAT THERE WERE -- YOU

COULD HIDE A LOT OF POOR

TEACHERS IN ONLINE COURSES.

AND SO, WE NEEDED

FACE-TO-FACE -- I AND I DISAGREE

WITH THAT AND I THINK IT'S A LOT

OF WORK TO DO ONLINE COURSE AND

IT'S A LOT OF TIME.

HOWEVER, THAT WAS THEIR STAND

THAT THEY DID NOT WANT ONLINE

COURSES AVAILABLE.

THAT IF SOMEBODY WANTED THAT

THEY COULD GO ELSEWHERE TO GET

IT.

AND IT HAS TAKEN THE STANCE ON

MANY THINGS.

YOU CAN GO ELSEWHERE TO GET IT.

WE ARE NOT GOING TO BE

EVERYTHING TO EVERYBODY.

ALL RIGHT.

SO THEN WE FAST FORWARD TO THIS

SEMESTER AND BECAUSE WE

ARE -- NOBODY WANTS TO THINK OF

A UNIVERSITY AS A BUSINESS, BUT

WHEN SOME OF YOUR BUSINESS

STARTS GETTING TAKEN AWAY, YOU

START TO CHANGE.

SO WHILE I ALWAYS DISAGREED WITH

THEM ABOUT THEIR STANCE ON

ONLINE.

THEY WEREN'T SUPPORTING IT AND

WITHOUT THE INFRASTRUCTURE TO DO

ONLINE COURSES, YOU JUST CAN'T

DO IT.

SO WE HAD OUR HANDS TIED.

IT HAS CHANGED NOW.

BUT AGAIN, I DO NOT CLAIM TO

UNDERSTAND THE WORKINGS OF THE

UPPER ADMINISTRATION.

I COMPLETELY DISAGREE WITH A LOT

OF THE THINGS THEY ORIGINALLY

USED AS RATIONAL FOR NOT DOING

IT.

>> ONE OF THE CHALLENGES I HAD

WITH ONLINE TEACHING AND I'VE

BEEN DOING IT NOW FOR 10 YEARS

IN VARIOUS SUNDRY WAYS, IS THE

PHILOSOPHY THAT YOU CAN CREATE

THE COURSE ONLINE AND THEN

ASSIGN AS MANY AS 60 AND 70

STUDENTS IN AN ONLINE COURSE.

IN WHICH CASE YOU SECTION THE

COURSE.

I BASICALLY TEACH 6 SECTIONS AND

THAT'S YOU WHAT NEED IN THAT

PARTICULAR COURSE.

EDUCATING PEOPLE IN OUR

ADMINISTRATION, WE HAVE THE

ISSUES THAT WE -- MY SUCCESSOR

IN THE ROLE OF DIRECTOR OF

INFORMATION TECHNOLOGY HAS

PRESENTED THE ADMINISTRATION

WITH EVIDENCE AS TO THE OPTIMAL

SIZE FOR ONLINE TEACHING.

IT'S LIKE THAT'S NOT -- YOU JUST

NOT TEACHING IT RIGHT.

BUT REALLY THE EVIDENCE SAYS

THAT ONCE YOU GET BEYOND ABOUT

25, IT'S VERY DIFFICULT TO HAVE

THESE KIND OF INTERACTIVITIES

THAT YOU NEED IN AN ONLINE

COURSE SO THE SAME AS WE HAVE TO

EDUCATE PEOPLE ABOUT GENETICS

AND GENOMICS, SOMETIMES WE

SHOULD TO EDUCATE FOLKS ABOUT

TEACHING STRATEGIES.

AND THERE ARE LOTS OF BALTS YOU

CAN CHOOSE TO FIGHT.

>> WE HAVE REACHED THE 3:00 P.M.

POINT, WHICH IS THE CLOSE OF THE

WEBINAR.

THANK YOU FOR THOSE OF YOU WHO

JOINED IN THE WEBINAR PROCESS

AND WE LOOK FORWARD TO WORKING

WITH YOU IN THE FUTURE.

AND FOR THOSE IN THE ROOM, IT'S

BREAK TIME.

FOR 15 MINUTES.

[APPLAUSE]