

The Lord is like a strong tower, where the righteous can go and be safe.
Proverbs 18:10

ISSN 2473-8273
DIYARYO KABITENYO
Nagmamalasakit sa lalawigan

Be alert, stand firm in the faith, be brave, be strong.
1 Corinthians 16:13

Entered as FIRST CLASS MAIL at Juvet Post Office with Business Mail Permit No. 1C-19-09-249
Vol. 23 No. 47 January 11-17, 2021 P 10.00

Kawit distributes laptops to teachers, student journalists

The municipal government of Kawit, Cavite distributed 40 laptop sets with mouse, flash drive and laptop bag to public school teachers and student journalists of ETTMNSH.

"40 na set ng mga laptop, mouse, flash drive, at laptop bag po ang handog natin para sa mga faculty ng lahat ng public school sa Kawit. Kabilang na rin po dito ang ating handog para sa mga student journalist natin sa ETTMNSH" Mayor Angelo Aguiraldo said in a Facebook post.

"Natanggap po din ng ating mga principal ngeyong umaga dito sa ating munisipalidad kung saan kasama sila

Here is page 3



38 PDLs finish TESDA course

Around 38 women who are Persons Deprived of Liberty (PDLs) from the city of Bacoor, Cavite finished their TESDA course. According to the Facebook post of the city government of Bacoor, the study will help the PDLs to re-integrate in society once they are freed.

"Hindi hulang ang rehas ng kuluhan sa mga baklang pangunahing pagtatapos sa magandang bukasang lipunang ginawa ng 38 female Persons Deprived of Liberty sa kanilang pagtatapos sa isang online course sa larangan ng TESDA," it said.



DIYARYO KABITENYO

ISSN: 2611-811X

ARNULFO BARCO
 Publisher - Editor
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DIYARYO KABITENYO is published weekly and circulates throughout the province of Cavite. It has its editorial and business offices at Block 11, Lot 1, Libertyway, Imus Subdivision, ANMM-C, City of Imus, Cavite. It is registered at the Department of Trade and Industry Region 4, P.O. Box No. 00354, CMC, with telephone number 8 0077460011.

Subscription Rate:	Advertising Rate:
1 month - P. 40.00	Commercial - PECO 20000 on
3 months - 120.00	LONG - 180 00000 on
6 months - 240.00	



Publishers Association of the Philippines, Inc.

MRI frequently underestimates tumor size in prostate cancer

A study led by researchers at the UCLA Jonsson Comprehensive Cancer Center has found that magnetic resonance imaging, or MRI, frequently underestimates the size of prostate tumors, potentially leading to undertreatment.

The study authors found that such underestimation occurs most often when the MRI measured tumor

size is small and the PI-RADS score, which is used to classify lesions in prostate MRI analysis, is low. For prostate tumor treatments to be successful, both the MRI size measurement and PI-RADS score must be accurate because they allow physicians to determine precisely where tumors end and where the normal, healthy tissue surrounding

can trigger visual hallucinations in the blind. Prof. Rafi Malach and his group members at the Institute's Neurobiology Department research the phenomenon of spontaneous "seeing-state" fluctuations in the brain. These mysterious slow fluctuations, which occur all over the brain, take place well below the threshold of consciousness. Despite a

fair amount of research into these spontaneous fluctuations, their function is still largely unknown. The research group hypothesized that these fluctuations underlie spontaneous behaviors. However, it is typically difficult to investigate truly unprompted behaviors in a scientific manner because, to one, instructing people

to behave spontaneously is usually a spontaneity-killer. Secondly, it is difficult to separate the brain's spontaneous fluctuations from other task-related brain activity. The question was how could they isolate a case of a truly spontaneous, unprompted, behavior in which the role of spontaneous brain activity could be tested?

Researchers compared MRI-measured tumor size with actual tumor size after prostate removal in 441 men treated for prostate cancer. It is also increasingly used as a means to map and guide delivery of new, highly focused therapies that use freezing (cryo-therapy), ultrasound (HIFU) and heat (laser ablation) to destroy cancerous tissue while sparing healthy tissue.

(KAWIT... from page 1)

SAO Jerry Iacin at Municipal Administrator Engr. Ray Santos ay kumomanta na rin natin sila at kung ano pa ang kaniyang mga pangangailangan," he added.

According to the mayor, the laptop sets were procured through the Special Education

Fund of their LGU in cooperation with Kawit DepEd District Supervisor Susan Aquino. "Hiling din po natin na malaki ang matatag na paghatid ng dekalidad na edukasyon para sa kabataan ng Kawit," Aguiraldo said.

A brain mechanism underlying 'vision' in the blind is revealed

Some people lose their sight, but Charles Bonnet, who they continue to "see" described in 1749 how this phenomenon, a too completely blind kind of vivid visual hallucination, is named, vivid, detailed vi-

ual scenes of the brain

APPROVAL FOR SELF-ADJUDICATION WITH ABOLUTIVE SALE

NOTICE is hereby given that the estate of the deceased **SERGEANT JUAN TORRES** who died testate on January 3, 2015 and legated his property, Real Estate, CDA, consisting of 1/2 acre of land, is being offered for sale in the following manner:

1. One-half (1/2) share of 2.5000 (two and five hundredths) shares of common stock of the **United States of America**, State of **California**, City of **San Francisco**, California, consisting of 100 shares, owned by **JOSE TORRES**, deceased, consisting of 50 shares of **UNITED STATES SQUARE METERS**.

2. One-half (1/2) share of a residential house situated in the aforementioned parcel of land and owned by the Deceased **JOSE TORRES**.

Two (2) shares will be sold by the said late **Enrique Dela Peña Torres** and for and in consideration of the amount of Eight Thousand Five Hundred Pesos (P8,500.00), also known as **P85,000.00**, to **ANGELICA** and **CONCEPCION** heirs of the late **JOSE TORRES**, the estate properties (1/2 acre of land and the 1/2 acre of land) after the death of the late **JOSE TORRES** on October 2, 2015 in **San Francisco, California**, State of **California**, City of **San Francisco**, California, as shown in the **Final Decree of the Probate Court** in Case No. 157, Page No. 10, Book No. 309, Series of 2016.

(Sgd.) **Enrique Dela Peña Torres**

Publication: **DIYARTO KASINTENO**
Date: **January 15, 2023, Series 44-11-2023**

Not just a guys' club: Resistance training benefits older women just as much as older men

Men and women realized the benefits of aged over 50 can reap 30 different resistance training studies in- fitness resistance train- ing, a new study led by experts. This paper **UNSW Sydney** shows, specifically compared

While men are the muscle of men and likely to gain more ab- solute muscle size, the gains relative to body size are on par to women. "Historically, people tended to believe that men adapted to a greater degree than women to resistance training compared to women," says

The findings, re- cently published in **Sports Medicine**, com-

REPUBLIC OF THE PHILIPPINES
REGIONAL TRIAL COURT
FOURTH DIVISION, REGION
Branch 16, Bacoor City

IN RE: PETITION FOR ADOPTION
OF MINOR **CZARINA JOYCE CHAVEZ SALLAN**

ESP-2019-103

SPOUSER **JUAN JOHNG MOLO**
AND **ESDELA L. CATALUNA MOLO**

Petitioner

AMENDED ORDER

The above-entitled case is a petition for the adoption of minor **Czarina Joyce Chavez Sallan** filed by spouses **Juan Johng Molo** and **Esdele L. Cataluna Molo**.

NOTICE IS HEREBY GIVEN that the said petition is set for hearing on **February 9, 2023, at 1:00 in the afternoon**. All parties interested are deemed to appear and show cause why said adoption should not be granted.

Let this Order be published once a week for three (3) consecutive weeks in a newspaper of general circulation in the Province of Cavite.

Ms. **Maricela Cuevas**, Social Worker of this Court, is referred to conduct an investigation relative to the petition and to prepare and submit the corresponding Child and Home Study Report.

For the copies of this Order and Petition the Office of the Solicitor General, the City Civil Registrar of Bacoor, Cavite, the Department of Social Welfare and Development (DSWD) - Pateros Office 77-A, Calabar, Marikina City and the Philippine Consulate Authority.

NO ORDER

JOSE VICENTE, Bacoor City, Cavite, June 11, 2023.

(Sgd.) **ANABELA C. MANABANG**
Acting Judge

Case Foreword

Atty. **Alvin B. Tangonan** - Tangonan Law Offices,
Unit 4-C, 222 Cor. Bldg., Govt. Highway 404,
Pateros 2, Marikina City, Cavite

The Solicitor General
124 Avenida 9-C, Legaspi Village, Makati City

Office of the City Prosecutor of Bacoor City
City Civil Registrar of Bacoor City, Cavite

Department of Social Welfare and Development (DSWD)
Pateros Office 77-A, Calabar, Marikina City

Philippine Consulate Authority
124 Avenida 9-C, Legaspi Village, Makati City

Publication: **DIYARTO KASINTENO**
Date: **January 15, 2023, Series 44-11-2023**

Dr. **Armando (Mandy) Garcia**, senior author of the **Hagerman**, exercise sci- ence lecture at **UNSW**. "The differences between men and women may be based primarily on

REPUBLIC OF THE PHILIPPINES
FOURTH JUDICIAL REGION
REGIONAL TRIAL COURT
BRANCH 16
BACOOR, CAVITE

IN THE MATTER OF PETITION
FOR CANCELLATION OR CORRECTION
OF ENTRIES IN THE CIVIL REGISTRY
(RULE 108)

ROBERT C. NOLANCO,
Petitioner

ESP-2023-100

LOCAL CIVIL REGISTRAR GENERAL and
THE CIVIL REGISTRAR OF THE CITY OF
BACOOR, CAVITE

Respondent

NOTICE OF HEARING

There is a petition filed by petitioner **Roberto Nolanco** for the cancellation or correction of entries in the Civil Registry in the grounds alleged therein.

NOTICE IS HEREBY GIVEN that said petition has been set for hearing on **January 29, 2023 at 1:00 in the morning** before this Court, at which time, both petitioner and respondent are deemed to appear and show cause why the same should not be granted.

Let this Notice be published once a week for three (3) consecutive weeks in a newspaper of general circulation in the area and province of Cavite.

Let copies of this Notice and that of the petition be furnished the Office of the Solicitor General, Bacoor City, Local Civil Registrar of Bacoor City, Cavite and the Philippine Consulate Authority, Quezon City.

WITNESSE THE HONORABLE **ARDEL G. TORREALBA**,
Judge of this Court this 15th day of December, 2023 at Bacoor,
City, Cavite, Philippines.

(Sgd.) **ATTY. MELLY C. BERSONORA-FORTA**
Branch Clerk of Court

Publication: **DIYARTO KASINTENO**
Date: **January 15, 2023, Series 44-11-2023**

late to how we look at training results. The findings add to previous research on differences in muscle size between men and women and which suggested that men and women can achieve similar relative muscle size gains.

The researchers compared muscle mass and strength gains in 400 older men and 700 older women across different resistance training studies. The researchers found that men and women may achieve similar relative muscle size gains across different resistance training studies.

REPUBLIC OF THE PHILIPPINES
LOCAL CIVIL REGISTRY OFFICE
PROVINCE OF CAVITE
MUNICIPALITY OF NAIC

NOTICE OF PUBLICATION

In compliance with Section 3 of R.A. 9048, a 2000-
is hereby returned to the public (in Particular) has filed
with this Office a petition for Change of First Name from
NORA N. NORRAN to the birth certificate of **NORA N.
GIBRIL** born on **DECEMBER 12, 1981** in **NAIC, CAVITE** child
of **FRANCIS SANFELICIANO GIBRIL** and **FLORIAN ALVARO
B. WOLKES**.

Any person adversely affected by said petition, may
file his written opposition to this Office and have this
January 25, 2021.

Signed: **GLORIA F. RAGO**
Municipal Civil Registrar

DIOMAGO KABITENO - January 11 & 12, 2021

EXTRA JUDICIAL SETTLEMENT OF ESTATE
OF **DIOMAGO T. MAGAY AMBAT** AND **GLORIA PATARIG
AMBAT** LEGAL WIFE WITH HEIR OR ABSOLUTE SALE

NOTICE is hereby given that the estate of the deceased
DIOMAGO T. MAGAY AMBAT and **GLORIA PATARIG
AMBAT**, who both died intestate on November 11, 2015
and February 2, 1995, in Spring, Cavite, respectively,
possessing of the property of land located at Barangay Cabaang,
Municipality of Naic, Province of Cavite, covered by
Transfer Certificate of Title No. 2279239-0000, of the
Registry of Deeds for Taguig City, and the Declaration
of Real Property with TIN No. 04-002-0000, containing
area of 0.0000 HECTARE (0000 SQ. M.) and 0.0000
HECTARE (0000 SQ. M.) and 0.0000 HECTARE (0000 SQ. M.)
has been judicially and extrajudicially settled by and among
the heirs and interested parties, and, in full consideration of the
sum of Five Million Two Hundred Forty Nine Thousand Four
Hundred Pones (P5,249,400.00, Philippine Currency) (P52,
499,400.00), the heirs, **DIOMAGO T. MAGAY AMBAT**,
No. 101 of 00000000-0000 and **GLORIA PATARIG
AMBAT**, No. 101 of 00000000-0000, and **DIOMAGO T. MAGAY
AMBAT**, No. 101 of 00000000-0000, and the Transfer Certificate
of Title No. 2279239-0000 and the Declaration of Real
Property with TIN No. 04-002-0000 on November 17, 2020
in the Province of Cavite, before Public Notary, **DIOMAGO
T. MAGAY AMBAT**, in full consideration of the sum of Five
Million Two Hundred Forty Nine Thousand Four Hundred
Pones (P5,249,400.00, Philippine Currency) (P52,499,400.00).

Signed: **DIOMAGO T. MAGAY AMBAT**
in their better interests by First and Second
DIOMAGO T. MAGAY AMBAT and **GLORIA PATARIG
AMBAT**

Public Notary: **DIOMAGO T. MAGAY AMBAT**
Date: January 11 & 12, 2021

No guy has a magic.
Magic is in the heart of the girl loving
the guy who can send her whole
being up to 'Cloud Nine' even with
the mere touch on her fingertips.
-Arnold S. Bano-

AUCTION SALE

In compliance with Section 2 of R.A. 9048, a 2000-
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with this Office a petition for Change of First Name from
NORA N. NORRAN to the birth certificate of **NORA N.
GIBRIL** born on **DECEMBER 12, 1981** in **NAIC, CAVITE** child
of **FRANCIS SANFELICIANO GIBRIL** and **FLORIAN ALVARO
B. WOLKES**.

Any person adversely affected by said petition, may
file his written opposition to this Office and have this
January 25, 2021.

Signed: **GLORIA F. RAGO**
Municipal Civil Registrar

DIOMAGO KABITENO - January 11 & 12, 2021

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Simple bioreactor makes 'gut check' more practical

Rice University with a 98-well petri dish, with the added
Medicine researchers benefits of fluid flow
have found a way to over seeded epithelial
mimic conditions in cells infected with bac-
terial infections. teria. The cassette also
the real-time growth of have micro-scale ports
bacterial infections. for input and output,
allowing not only for
In a new study, fluid flow but also for
they demonstrate a sampling of the envi-
ronment.

The study led by Grande-Alen, Kory
label C. Cameron
Professor of Bioen-
gineering and lead
author and Rice and
M.D., Ph.D.
currently a resident
at Oregon Health and
Science University,
appears in the Annals
of Biomedical Engi-
neering.

The team led by bioengineer
Grande-Alen of Rice's
School of En-
gineering developed
transparent multilayer
in perfusion cassette
(uPCs) that are easy to
fabricate and operate
and compatible with
common microscopes
and biochemical anal-
yses.

The cassette allows
easy non-invasive
to produce the kind of
results typically done
in a lab that simplifies
simulations of the hu-
man intestine, mak-
ing it more practical
to find treatments for
diarrhea, infectious
diseases, and food
poisoning.

By replicating in-
tegrated human
gut is a challenge
for researchers and
an earlier culture
medium, an essential
production of molecu-
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COVID-19 outcomes for patients on immunosuppressive drugs on par with non-immunosuppressed patients, study finds

People taking immunosuppressive drugs to prevent organ transplant rejection or to treat inflammatory or autoimmune diseases do not fare worse than others on average when they are hospitalized with COVID-19, according to a study from researchers at the Johns Hopkins Bloomberg School of Public Health.

Estimates suggest that there are approximately 10 million immunocompromised people in the U.S. alone. Suppression of the immune system has been considered a potentially major risk factor for severe and fatal COVID-19 because it could allow the SARS-CoV-2 virus to spread unchecked in the body. At the

same time, there have been anecdotal reports of immunosuppressed people who experienced only mild COVID-19 or even no symptoms at all — suggesting that immunosuppressive drugs might have a protective effect by preventing the inflammatory storm sometimes associated with severe COVID-19.

For their study, the researchers analyzed the outcomes of 2,171 hospitalized COVID-19 patients seen at the Johns Hopkins Medicine medical system in Baltimore, MD, and Washington, D.C., from March 8 to August 29, 2020. They found that the immunosuppressive COVID-19 patients who were

immunosuppressed prior to their COVID-19 hospitalization did not, on average, have worse COVID-19 outcomes — such as longer length of stay in the hospital, death or use of a ventilator — compared to their counterparts who were not immunosuppressed.

The study was published January 5 in *Clinical Infectious Diseases*. “The COVID pandemic has elicited a wave of scientific investigations that examine who fares better and who fares worse with the new virus. We reasoned our hospital was a good group of individuals to draw on. They found that the immunosuppressive COVID-19 patients, including such as people with a history of or-

gan transplantation or rheumatologic disease and found some good news,” says senior author G. Caleb Alexander, MD, a professor in the Bloomberg School’s Department of Epidemiology at the Johns Hopkins Bloomberg School of Public Health and a practicing internist.

“There has been concern that immunosuppression might be an important risk factor for severe COVID-19, but reassuringly we found no signs of that,” says study first author Kaye Anderson, a PhD candidate in the Bloomberg School’s Department of Epidemiology. To date, there have been 83 million COVID-19 cases reported around the

world, and the Northern Hemisphere’s recent shift to cold weather has brought the largest surges in new cases. Many health care systems are struggling to cope with this surge and are trying to allocate limited resources. Knowing which incoming patients are more likely to progress to severe COVID-19 helps them do that. But whether patients who are ‘immuno-compromised’ due to immunosuppressing drug treatment belong in the highest risk category has been a mystery.

The Johns Hopkins researchers found that 10% or about 5 percent of the total COVID-19 cases hospitalized in

the Baltimore/Washington Johns Hopkins medical network during the study period could be classified as immunosuppressed because they were taking an anti-inflammatory drug such as prednisone or an anti-rejection drug such as tacrolimus after organ transplant.

These results were obtained after using statistical methods to account for differences between the groups in factors such as age, sex, and non-COVID-19 disease burden that might have skewed the analysis. But even the researchers’ raw unadjusted analysis found no statistical association between severe COVID-19 outcomes and immunosuppression status.

Mediterranean diet may decrease risk of prostate cancer progression

In a study to evaluate a Mediterranean diet in relation to prostate cancer progression in men on active surveillance, researchers from The University of Texas MD Anderson Cancer Center found that men with localized prostate cancer who closely follows the principles of a Mediterranean-style diet fared better over the course of their disease.

"Men with prostate cancer are motivated to find a way to improve the advancement of their disease and many would consider improve their quality of life," and Justin Gregg, M.D., assistant professor of Urology and lead author of the study, published January 7, 2021 in Cancer

"A Mediterranean diet is non-invasive, good for overall health and, as shown by this study, has the potential to affect the progression of their cancer."

After adjusting for factors known to increase risk of prostate cancer, such as age, prostate-specific antigen (PSA) and tumor volume, men with a diet that contained more fruits, vegetables, legumes, cereals and fish

had a reduced risk of prostate cancer progression or advancement to a point where active treatment. The researchers also examined the effect of diabetes and statin use and found a similar risk reduction in these patient groups.

The study, whose largest number of participants were also found that the effect of a Mediterranean diet was more pronounced in African American participants and others who self-identified as non-white. These findings are significant as the rate of prostate cancer diagnosis is more than 50% higher in African American men, who also have a higher risk of prostate cancer death and disease progression.

"The Mediterranean diet consistently has been linked to lower risk of cancer, cardiovascular disease and mortality. This study in men with early stage prostate cancer gets us another step closer to providing ev-

idence-based dietary recommendations to cancer patients, who along with their families, have many questions in this area," said Carrie Daniel-MacDougall, Ph.D., associate professor of Epidemiology and senior author of the study.

After skin cancer, prostate cancer is the most common cancer in men in the United States. Since most cancers are low-risk disease, localized to the prostate and have favorable

outcomes, many men do not need immediate treatment and opt for active surveillance by their doctors. Treatment for prostate cancer can cause changes in quality of life and declines in urinary and sexual function, there-

fore there is interest in finding modifiable factors for men managed by active surveillance.

The study followed 410 men on an active surveillance protocol with Gleason grade 1 or 2 localized prostate cancer. All study participants underwent a confirmatory biopsy at the beginning of the study and were evaluated every six months through clinical exam and laboratory studies of serum antigen-PSA and testosterone.

Trial participants were 82.9% Caucasian, 8.1% Black and 8% other or unknown. The median age was 64, 13% of the men were diabetic and 48% used statins.

The men completed a 170-item baseline

food frequency questionnaire, and Mediterranean diet score was calculated for each participant across 9 energy-adjusted food groups. The participants were then divided into three groups of high, medium and low adherence to the diet.

After adjustments for age and clinical characteristics, researchers saw a significant association between high baseline diet score and lower risk of cancer grade progression.

For every one-point increase in the Mediterranean diet score, researchers observed a 10% lower risk of progression. After a median follow-up of 36 months, 76 men saw their cancer prog-

ress.

Comprehensive database of head and neck cancers created

In what is believed to be the most comprehensive molecular characterization to date of the most common type of head and neck cancer, researchers from the Johns Hopkins departments of pathology and oncology, the Johns Hopkins Kimmel Cancer Center, the Johns Hopkins University School of Medicine, and 18 other centers around the U.S. and Poland have clarified the contribution of key cancer-associated genes, proteins and signaling pathways in these cancers, while proposing possible new treatment avenues.

Their deep-dive investigation of HPV-negative head and neck squamous cell carcinoma (HNSCC), described in the Jan. 7 issue of the journal *Cancer Cell*, involved tumors from 104 patients who had not yet

received cancer treatment, and 66 samples of healthy tissue surrounding the tumors. The study systematically cataloged HPV-negative HNSCC-associated proteins, phosphosites (areas where they are modified by phosphate groups) and signaling pathways, finding three distinct subtypes of HNSCCs.

HNSCCs arise in the cells that line the upper aerodigestive tract, including the lips, mouth, tongue, nose, throat, vocal cords, and part of the esophagus and windpipe. The first subtype of HNSCC identified by researchers, dubbed CIN, showed the worst prognosis. It was associated with the larynx, a strong history of smoking and high instability of chromosomes. Because this subtype was associated with frequent alterations of the

CCND1 and CDKN2A genes, and high activity of the enzymes CDK4 and CDK6, this type of cancer may respond best to anti-cancer drugs called CDK4/6 inhibitors.

The second subtype, dubbed Basal, showed protein elevations of several basal factors, the most basic set of proteins needed to activate gene transcription. It was characterized by high activity in a signaling pathway called EGFR (epidermal growth factor receptor) and high expression of molecules called AREG and TNFA, which attach to the EGFR tumor protein. Therefore, researchers say, these cancers may respond best to anti-cancer drugs called monoclonal antibodies that are aimed at EGFR.

The third subtype, called Immune, was found among tumors

in people who did not smoke and showed high expression of multiple immune checkpoint proteins. Researchers say these tumors may best respond to anti-cancer drugs called immune checkpoint inhibitors. Overall, 32% of CIN tumors, 62% of Basal tumors and 83% of Immune tumors had high potential for the suggested treatments.

Researchers also found two modes of activation of EGFR, suggesting a new strategy to stratify HNSCCs based on the number of molecules bound to EGFR, for effective treatment with monoclonal antibody drugs that enlist the natural immune system to fight cancer. Additionally, they noted that widespread deletion of immune modulatory genes among these cancers accounts for a loss of ability to produce an

immune response.

"This study extends our biological understanding of HPV-negative HNSCCs and generates therapeutic hypotheses that may serve as the basis for future studies and clinical trials toward molecularly guided precision medicine treatment of this aggressive cancer type," says Daniel

Chao, Ph.D., principal investigator, a professor of pathology and oncology, and director of the Center for Biomarker Discovery and Translation at the Johns Hopkins University School of Medicine.

The three subtypes and suggested treatments "are quite major findings," says the study's co-principal investigator of the study, professor of pathology and oncology, and director of the Mass Spectrometry Core facility at the Johns Hop-

kins University School of Medicine. "Previously, patients would be treated using different options, but there was no systematic way to know which treatment would be the best option for certain patients." The team has begun similar work to tease out the properties of HPV-positive HNSCCs, she says.

Researchers used the most advanced genomic and proteomic technologies available to tease out HNSCC proteomic characteristics, defined as genetic makeup (genomic), chemical modifications to DNA (epigenetics), messenger RNA based in cells that serves as a template to make proteins (transcriptomics), and proteins (proteomics) and their modifications by phosphate groups (phosphoproteomics), a modification known to regulate protein function.

Where antibiotic resistance comes from?

By comparing thousands of bacterial genomes, scientists in Gothenburg, Sweden have traced back the evolutionary history of antibiotic resistance genes. In almost all cases where an origin could be determined, the gene started to spread from bacteria that themselves can cause disease.

While human DNA is only passed down from parent to child, bacteria also have the habit of sharing some of their genes across species. This often applies to genes that make the bacteria resistant to antibiotics.

The use and overuse of antibiotics provide an advantage to those bacteria that have acquired resistance genes, thus promoting the spread of resistance and making it more difficult to treat infections. This development threatens large parts of modern healthcare.

The rapid advances in DNA sequencing during the last decade has made it possible to study bacterial evolution much more effectively than ever before. This is an important background to the new study, published in the

scientific journal *Communications Biology*.

The team from Gothenburg explored the scientific literature for claims of recent origins for antibiotic resistance genes, added information from public DNA sequence databases, and scrutinized the evidence at hand. While antibiotic-producing bacteria often are speculated to be the source for antibiotic resistance genes (as self-defence), this was not what the scientists found. Some of the origin species found are known antibiotic producers.

How medical schools can transform curriculums to undo racial biases

Medical school curriculums may mis-use race and play a role in perpetuating physician bias, a team led by Penn Medicine researchers found in an analysis of curriculum from the preclinical phase of medical education. In a perspective piece published January 5 in the *New England Journal of Medicine*, the researchers identified five key categories in which curriculum misrepresented race in class discussions, presentations, and assessments. The authors recommend that rather than oversimplifying conversations about how race affects disease prevalence, diagnosis, and treatment, medical school faculty must widen the lens to "impart an adequate and accurate understanding of the complexity of these relationships."

"In medical school, 20 years ago we often learned that higher rates of hypertension in certain racial and ethnic groups was due to genetic predisposition, personal behaviors, or unfortunate circumstances. Now we know this is not true. There are no innate characteristics to racial and ethnic groups, biological or otherwise, that adequately explains these differences. They stem, instead, from differential experiences in our society—*it's structural racism, not race*," said the study's senior author Jaya Aiyela, MD, MPH, assistant dean of Inclusion and Diversity in the Perelman School of Medicine and executive director at the Penn Medicine Center for Health Equity Advancement. "When we speak of dismantling structural racism, we

must begin with medical education, where these sorts of race-based biases are still being reinforced in the classroom." Through the re-analysis of curriculum, researchers focused on lectures from a single medical school, the study authors from other institutions found similar misrepresentations of race in their preclinical medical curriculums. The five categories of biases that the research team identified were: semantics, prevalence of disparities without context, evidence-based diagnostic bias, pathologizing race, and race-based clinical guidelines. For example, the study authors noted the use of "African American" is a socially and politically meaningful identity for every people, but not for all people of African descent.