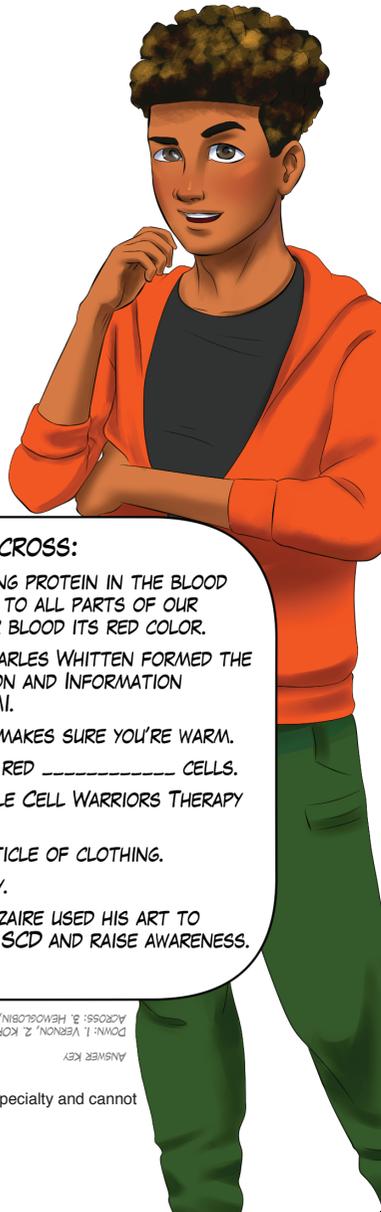
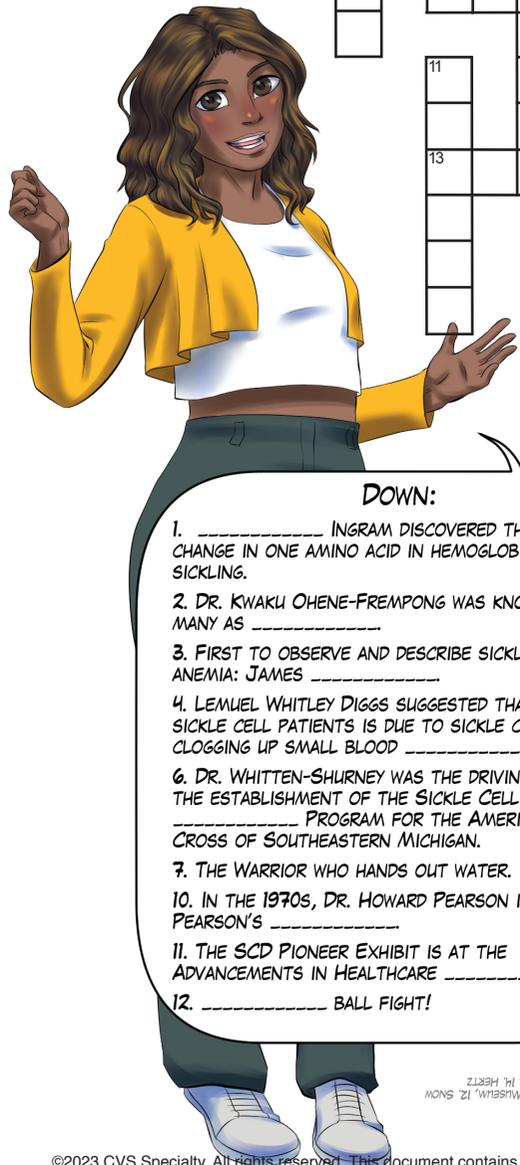
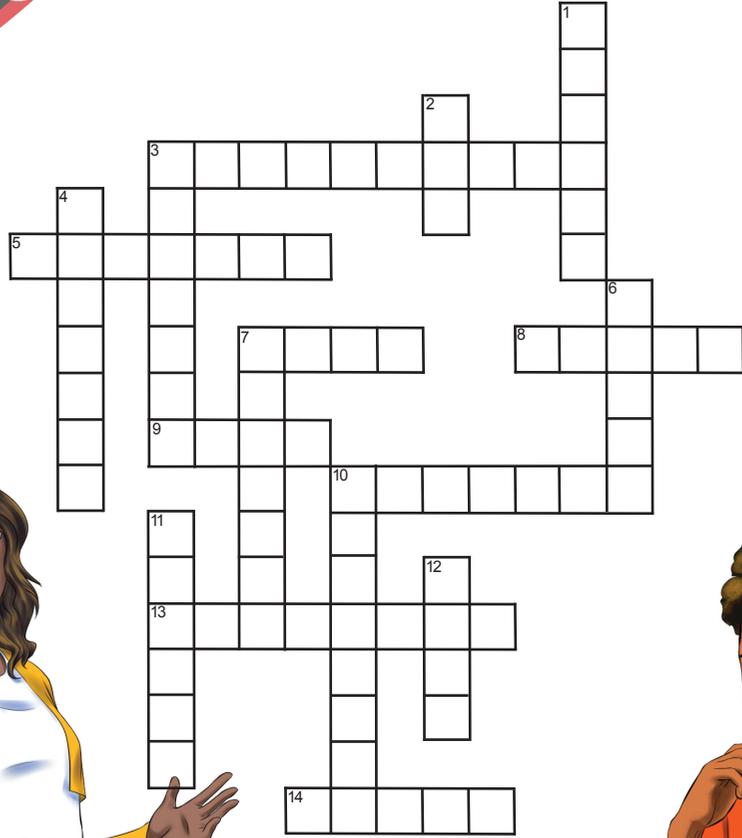




SCD Warriors and Pioneers



DOWN:

1. _____ INGRAM DISCOVERED THAT A CHANGE IN ONE AMINO ACID IN HEMOGLOBIN S CAUSED SICKLING.
2. DR. KWAKU OHENE-FREMONG WAS KNOWN TO MANY AS _____
3. FIRST TO OBSERVE AND DESCRIBE SICKLE-CELL ANEMIA: JAMES _____
4. LEMUEL WHITLEY DIGGS SUGGESTED THAT PAIN IN SICKLE CELL PATIENTS IS DUE TO SICKLE CELLS CLOGGING UP SMALL BLOOD _____
6. DR. WHITTEN-SHURNEY WAS THE DRIVING FORCE IN THE ESTABLISHMENT OF THE SICKLE CELL _____ PROGRAM FOR THE AMERICAN RED CROSS OF SOUTHEASTERN MICHIGAN.
7. THE WARRIOR WHO HANDS OUT WATER.
10. IN THE 1970S, DR. HOWARD PEARSON IDENTIFIED PEARSON'S _____
11. THE SCD PIONEER EXHIBIT IS AT THE ADVANCEMENTS IN HEALTHCARE _____
12. _____ BALL FIGHT!

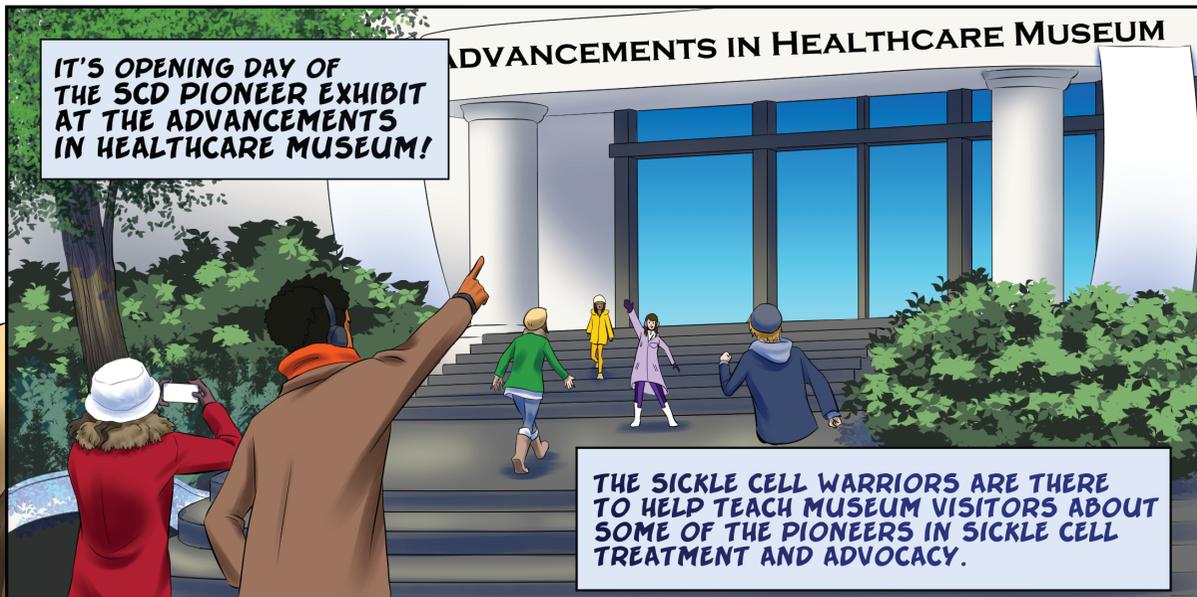
ACROSS:

3. THE IRON CONTAINING PROTEIN IN THE BLOOD THAT CARRIES OXYGEN TO ALL PARTS OF OUR BODIES AND GIVES OUR BLOOD ITS RED COLOR.
5. CITY WHERE DR. CHARLES WHITTEN FORMED THE SICKLE CELL DETECTION AND INFORMATION CENTER AND SCDAAMI.
7. THE WARRIOR WHO MAKES SURE YOU'RE WARM.
8. ERYTHROCYTES ARE RED _____ CELLS.
9. NAME OF THE SICKLE CELL WARRIORS THERAPY DOG.
10. COLD WEATHER ARTICLE OF CLOTHING.
13. FUN SNOW ACTIVITY.
14. _____ NAZAIRE USED HIS ART TO EXPRESS THE PAIN OF SCD AND RAISE AWARENESS.

ANSWER KEY
 DOWN: 1. VERNON, 2. KOFI, 3. HERICK, 4. VESSELS, 6. PIONEER, 7. HIBRATOR, 10. SNOWGLOBE, 11. MUSEUM, 12. SNOW
 ACROSS: 3. HEMOGLOBIN, 5. DETROIT, 7. HEAT, 8. BLOOD, 9. KIDNY, 10. SWEATER, 13. SLEPPING, 14. HERTZ



♥ CVS specialty™



IT'S OPENING DAY OF THE SCD PIONEER EXHIBIT AT THE ADVANCEMENTS IN HEALTHCARE MUSEUM!

ADVANCEMENTS IN HEALTHCARE MUSEUM

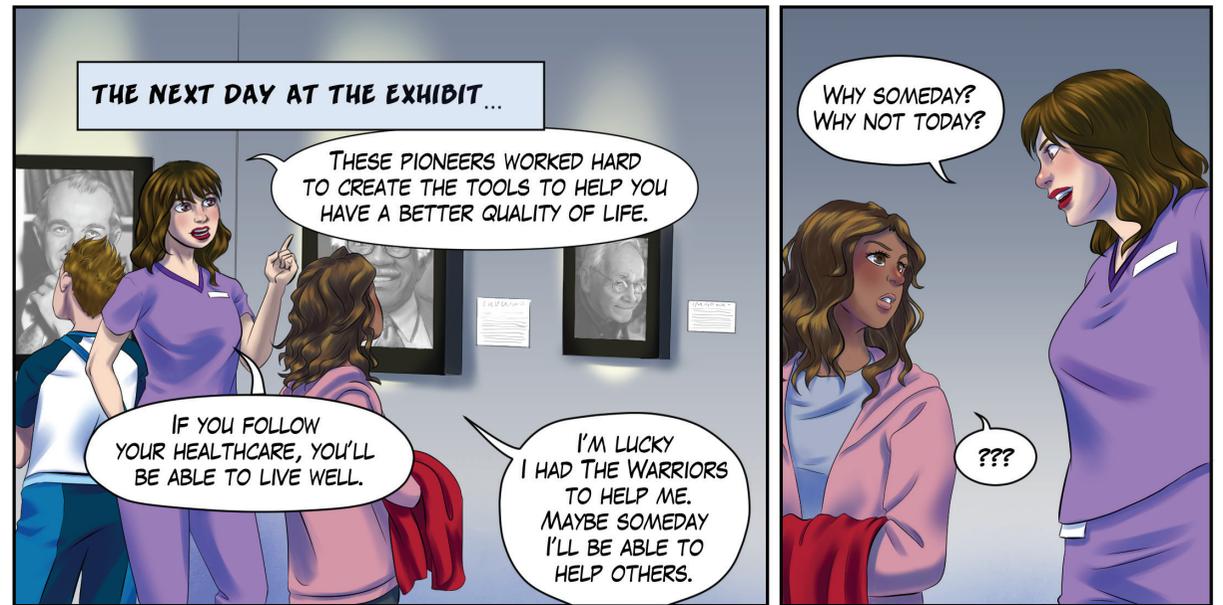
THE SICKLE CELL WARRIORS ARE THERE TO HELP TEACH MUSEUM VISITORS ABOUT SOME OF THE PIONEERS IN SICKLE CELL TREATMENT AND ADVOCACY.

NURSE JESSICA MANNING, A CVS SPECIALTY NURSE ALSO KNOWN AS THE NIGHTINGALE, HAS INVITED A GROUP OF HER TEENAGE PATIENTS.

SHE AND THE WARRIORS HOPE THIS WILL INSPIRE THEM TO:

BE YOUR OWN HERO

PENCILS, INKS, COLORS, LETTERER: SYLVIA T. LEUNG - PRODUCER AND WRITER: TOM MISURACA
EXECUTIVE PRODUCERS: ASHLEY DAHLGREN, NICHOLAS FAHEY, AND JULIA A. MASON



THE NEXT DAY AT THE EXHIBIT ...

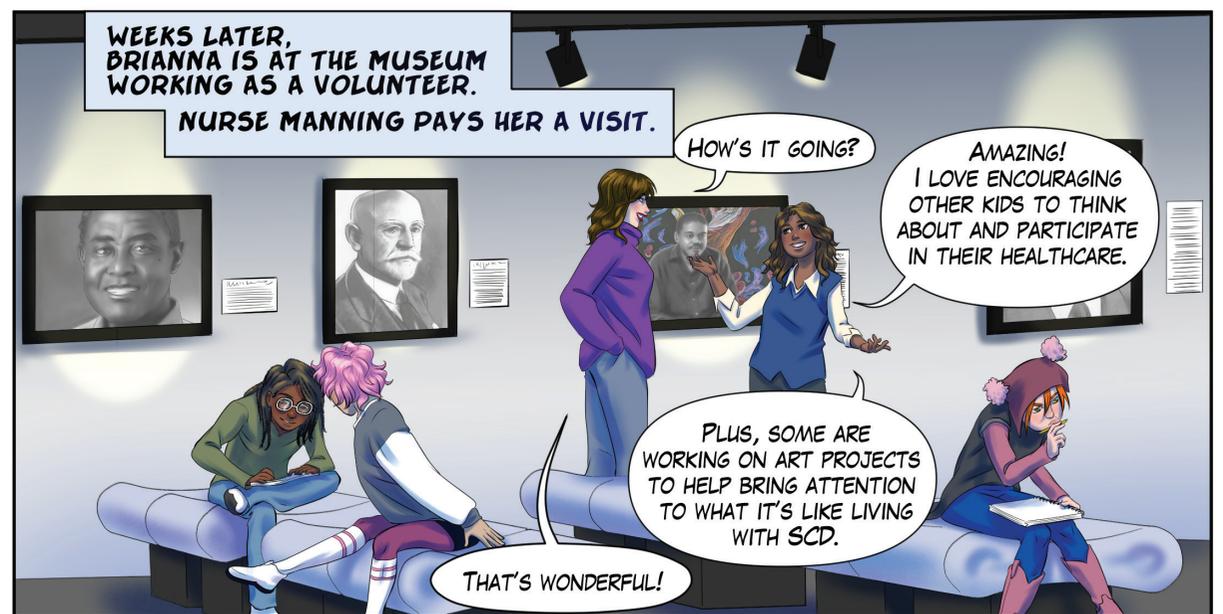
THESE PIONEERS WORKED HARD TO CREATE THE TOOLS TO HELP YOU HAVE A BETTER QUALITY OF LIFE.

IF YOU FOLLOW YOUR HEALTHCARE, YOU'LL BE ABLE TO LIVE WELL.

I'M LUCKY I HAD THE WARRIORS TO HELP ME. MAYBE SOMEDAY I'LL BE ABLE TO HELP OTHERS.

WHY SOMEDAY? WHY NOT TODAY?

???



WEEKS LATER, BRIANNA IS AT THE MUSEUM WORKING AS A VOLUNTEER.

NURSE MANNING PAYS HER A VISIT.

HOW'S IT GOING?

AMAZING! I LOVE ENCOURAGING OTHER KIDS TO THINK ABOUT AND PARTICIPATE IN THEIR HEALTHCARE.

PLUS, SOME ARE WORKING ON ART PROJECTS TO HELP BRING ATTENTION TO WHAT IT'S LIKE LIVING WITH SCD.

THAT'S WONDERFUL!



YOU KNOW, THIS IS MAKING ME THINK I WANT TO GO INTO TEACHING. OR MAYBE HEALTHCARE. OR SCIENCE!

WHO KNOWS, MAYBE ONE DAY YOUR PORTRAIT WILL BE HANGING ON THESE WALLS.

THAT'S EVEN BETTER THAN A SELFIE.

LATER, AT THE WARRIOR'S HQ...

BRIANNA IS TAKING HER RESPONSIBILITIES SERIOUSLY.

GREAT WORK TEAM! IT'S ALWAYS REWARDING HELPING TEENS BE THEIR OWN HEROES!

END

WHEN BRIANNA IS FEELING BETTER, SHE, THE WARRIORS, AND HER PARENTS DISCUSS THE DAY'S EVENTS.

YOU HAVE A SERIOUS CONDITION, BRIANNA...

AND IT'S IMPORTANT FOR YOU TO KEEP ALL YOUR DOCTOR'S APPOINTMENTS.

THERE'S A TIME FOR PLAY AND A TIME TO SET ASIDE FOR YOUR MEDICAL APPOINTMENTS.

ON THOSE DAYS, MAKE SURE YOU SET YOUR ALARM AND CATCH THE BUS ON TIME.

AND THAT'S JUST PART OF WHAT YOU GOTTA DO TO STAY HEALTHY.

IT'S ALSO IMPORTANT THAT YOU EAT WELL AND EXERCISE REGULARLY.

BUT DON'T OVER DO IT!

AND HEY, THINK ABOUT GETTING A MEDICAL ALERT TAG.

AND DON'T FORGET TO DRINK LOTS OF WATER.

BRING SOMEBODY WITH YOU.

IF YOUR PARENTS AREN'T AVAILABLE, PERHAPS ANOTHER RELATIVE OR FRIEND.

MAKE SURE YOU DRESS PROPERLY FOR THE COLD WEATHER.

ALWAYS KEEP A SWEATER AND INSTANT HOT PACKS WITH YOU.

AND DON'T STAY UP LATE BINGING TV SHOWS. YOU NEED TO GET LOTS OF REST.

IS ALL THIS REALLY WORTH IT?

MAYBE ANOTHER VISIT TO THE SCD PIONEER EXHIBIT AT THE MUSEUM WILL ANSWER THAT QUESTION.

IT'S OPENING DAY OF THE SCD PIONEER EXHIBIT.

NIGHTINGALE LEADS A GROUP OF HER TEENAGE PATIENTS INTO A VERY SPECIAL ROOM.

THIS IS THE TIMELINE OF THESE TRAILBLAZERS AND SICKLE CELL PIONEERS.

WOULD YOU LIKE TO HEAR ABOUT SOME OF THESE TRAILBLAZERS AND THEIR ACHIEVEMENTS?

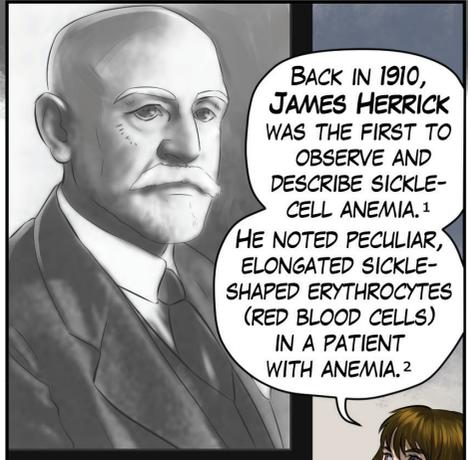
YEAH.

OK...

DEFINITELY.

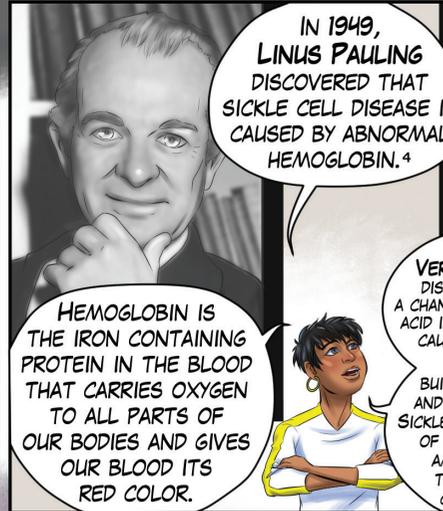
YES!

GREAT!



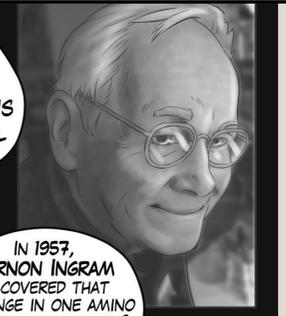
BACK IN 1910, JAMES HERRICK WAS THE FIRST TO OBSERVE AND DESCRIBE SICKLE-CELL ANEMIA.¹ HE NOTED PECULIAR, ELONGATED SICKLE-SHAPED ERYTHROCYTES (RED BLOOD CELLS) IN A PATIENT WITH ANEMIA.²

DURING THE 1930S, LEMUEL WHITLEY DIGGS SUGGESTED THAT PAIN IN SICKLE CELL PATIENTS IS DUE TO SICKLE CELLS CLOGGING UP SMALL BLOOD VESSELS.³



IN 1949, LINUS PAULING DISCOVERED THAT SICKLE CELL DISEASE IS CAUSED BY ABNORMAL HEMOGLOBIN.⁴

HEMOGLOBIN IS THE IRON CONTAINING PROTEIN IN THE BLOOD THAT CARRIES OXYGEN TO ALL PARTS OF OUR BODIES AND GIVES OUR BLOOD ITS RED COLOR.

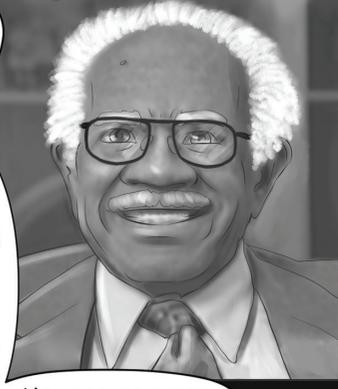


IN 1957, VERNON INGRAM DISCOVERED THAT A CHANGE IN ONE AMINO ACID IN HEMOGLOBIN'S CAUSED SICKLING.⁵

AMINO ACIDS ARE BUILDING BLOCKS OF PROTEIN AND INGRAM DETERMINED THAT SICKLE CELL ANEMIA WAS A RESULT OF A CHANGE IN ONE TYPE OF AMINO ACID WHICH CAUSED THE RED BLOOD CELLS TO CREATE HEMOGLOBIN S.

DURING THE 1970S, THE CIVIL RIGHTS MOVEMENT CALLED ATTENTION TO RACIAL INEQUALITY IN HEALTHCARE.

DR. CHARLES WHITTEN FORMED THE SICKLE CELL DETECTION AND INFORMATION CENTER IN DETROIT, MI, A COMPREHENSIVE COMMUNITY PROGRAM WHICH DEVELOPED EDUCATIONAL TOOLS FOR TEACHING CHILDREN AND FAMILIES ABOUT SICKLE CELL DISEASE.



HE ALSO FOUNDED THE SICKLE CELL DISEASE ASSOCIATION OF MICHIGAN (SCDAAM) BASED IN DETROIT.

Footnotes
1. <https://www.britannica.com/biography/James-Bryan-Herrick>
2. <http://www.zsl.uimn.edu/cvdepts/bio-sketch/herrick-james/>
3. <https://www.findagrave.com/memorial/20386418/lemuel-whitley-diggs>
4. <https://www.nobelprize.org/prizes/chemistry/1954/pauling/photo-gallery/>
5. <https://www.thehistoc.com/jdr/journals/lancet/1957/03/06/694952.pdf>

UNDERSTANDING THE NEED FOR A NATIONAL AGENDA FOR SCD, DR. WHITTEN WAS INSTRUMENTAL IN THE CREATION OF THE NATIONAL ASSOCIATION FOR SICKLE CELL DISEASE, NOW KNOWN AS THE SICKLE CELL DISEASE ASSOCIATION OF AMERICA, INC.

ITS GOAL IS TO IMPROVE RESEARCH, EDUCATION, AND HEALTH CARE FOR SICKLE CELL PATIENTS.⁶



THERE ARE NOW MANY PEOPLE AT THE SICKLE CELL DISEASE ASSOCIATION OF AMERICA THAT ARE CARRYING THE TORCH OF ADVOCACY, KEEPING THOSE WITH SCD AND THEIR NEEDS AT THE FOREFRONT OF SCDA's MISSION AND DAILY PURPOSE.

DR. WHITTEN'S DAUGHTER, DR. WANDA WHITTEN-SHURNEY CARRIED ON HER FATHER'S LEGACY.

SHE HAS A LONG AND ACCOMPLISHED HISTORY OF HELPING CHILDREN AND THEIR FAMILIES MANAGE SICKLE CELL DISEASE.

DR. WHITTEN-SHURNEY WAS THE DRIVING FORCE IN THE ESTABLISHMENT OF THE SICKLE CELL DONOR PROGRAM FOR THE AMERICAN RED CROSS OF SOUTHEASTERN MICHIGAN.⁷



DR. KWAKU OHENE-FREMPONG (KNOWN TO MANY AS KOF) WAS A LEADING PEDIATRIC SICKLE CELL PHYSICIAN. HIS LANDMARK ANALYSIS OF STROKE SHOWED THE HIGH RATES OF STROKE IN CHILDREN WERE FROM BLOCKED BLOOD FLOW AND THE HIGH RATES OF STROKE IN ADULTS WERE FROM BLEEDING ANEURYSMS.

HE ALSO PIONEERED A NEWBORN SCREENING AND FOLLOW-UP PROGRAM IN KUMASI, GHANA, WHERE ONE IN 50 BABIES HAVE SCD.⁸



DR. HOWARD PEARSON MADE SIGNIFICANT CONTRIBUTIONS IN THE PEDIATRIC HEMATOLOGY/ONCOLOGY SERVICE AND CLINICAL RESEARCH, PARTICULARLY FOR CHILDREN WITH THALASSEMIA AND SICKLE CELL ANEMIA.

IN THE 1970s, HE IDENTIFIED A NEW SYNDROME, WHICH WAS NAMED PEARSON'S SYNDROME AFTER HIM.

DR. PEARSON ALSO DISCOVERED THAT ABOUT 50% OF CHILDREN WHO HAVE HAD THEIR SPLEENS REMOVED SURGICALLY BECAUSE OF TRAUMATIC RUPTURE EXPERIENCE SPLENOSIS, A REGENERATION OF THE SPLEEN.⁹



HERTZ NAZAIRE WAS A RENOWNED ARTIST AND AUTHOR WHO USED HIS ART TO EXPRESS THE PAIN OF SCD AND RAISE AWARENESS ABOUT THE DISEASE AND ITS EFFECTS.

NAZAIRE PASSED AWAY ON OCTOBER 29, 2021 FROM COMPLICATIONS RELATED TO SCD AT THE AGE OF 48.

6. <https://www.sicklecelldisease.org/2019/02/27/charles-f-whitten-black-history-month-scd-pioneers-2019/>
 7. <https://www.nihbi.nih.gov/todays-faces-sickle-cell-disease/wanda-whitten-shurney-md>
 8. <https://www.sicklecelldisease.org/2022/05/10/in-memory-of-dr-kwaku-ohene-frempong/>
 9. <http://archives.news.yale.edu/v30.n23/story13.html>

Resource for Milestones: <https://www.hematology.org/about/history/50-years/milestones-sickle-cell-disease>

AS BRIANNA STARTS HOME, THE COLD WIND WHIPS UP.

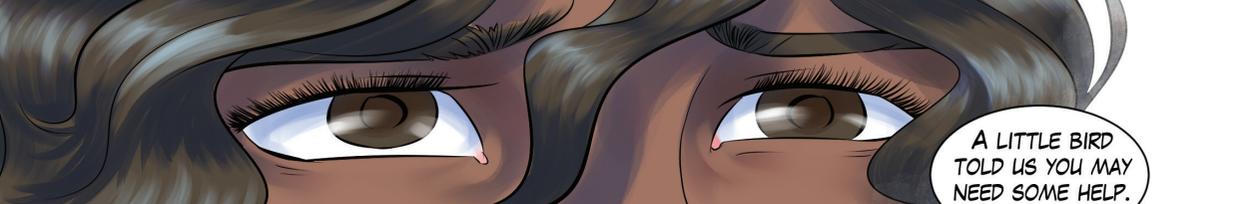
BRRRRRRR...

I'M OUT! LATER, BESTIES!

Nurse Manning! Nightingale!

SHOULDA LEFT EARLIER. IT'S SO COLD. AND I'M REALLY TIRED.

WHAT IF I CAN'T MAKE IT HOME?



A LITTLE BIRD TOLD US YOU MAY NEED SOME HELP.

THE WARRIORS HAVE COME TO BRIANNA'S RESCUE!

LOOKS LIKE YOU NEED SOME WARMING UP.

HEAT WRAPS A BLANKET AROUND BRIANNA. SHE THEN GIVES HER A WARM COMPRESS, HOT WATER BOTTLE AND INSTANT HOT PACKS.

LET'S GET YOU HOME.

BACK HOME, HYDRATE HAS A CUP OF WARM TEA WAITING FOR HER.



'SUP, BRIANNA! THIS SNOW IS NEXT LEVEL!

I'M READY TO FLY!



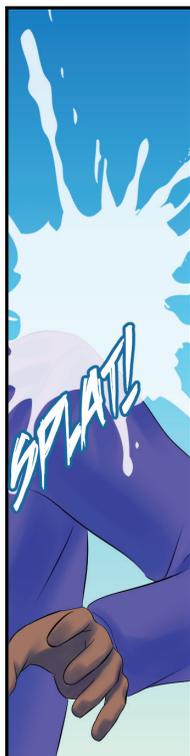
♪♪♪

Dr. Werner's Office



AFTER MANY RIDES DOWN THE HILL, BRIANNA BEGINS FEELING TIRED AND COLD.

MAYBE I SHOULD GO HOME...

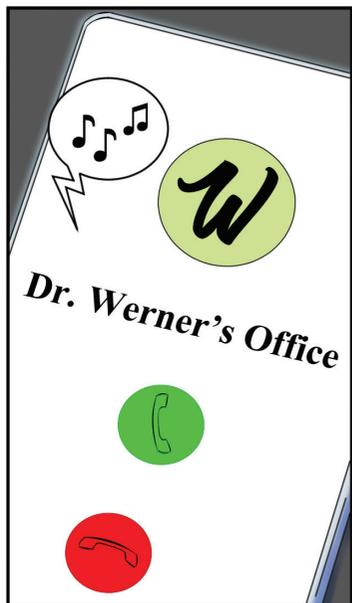


SNOWBALL



SNOWBALL FIGHT!

OH, IT'S ON!



♪♪♪

Dr. Werner's Office



SHE DIDN'T SHOW UP?

I REMINDED HER ABOUT IT YESTERDAY.

HOPE SHE'S OK.



AFTER THE TOUR, THERE'S A SPECIAL TREAT IN THE COURTYARD.

A VISIT FROM THE NEWEST MEMBER OF THE WARRIORS...

KADY THE THERAPY DOG!

GLAD YOU AND KADY ARE HITTING IT OFF, BRIANNA.



DON'T YOU HAVE AN APPOINTMENT WITH YOUR HEMATOLOGIST, DR. WERNER, TOMORROW?

YOU SHOULD SHOW HIM THOSE PICTURES AND TELL HIM WHAT YOU LEARNED TODAY.

YEAH, YEAH.

THAT NIGHT, BRIANNA'S PARENTS HELP HER PREPARE FOR HER UPCOMING APPOINTMENT.

SORRY NEITHER OF US COULD GET THE TIME OFF FROM WORK TO GO WITH YOU TOMORROW.

BUT WE THINK YOU'RE OLD ENOUGH TO GO ON YOUR OWN.

NOW MAKE SURE YOU GET TO BED EARLY.

