Dear Readers,

Thank you for taking the time to read the latest issue of H&P. This edition of our journal is entitled “Reflections,” a theme often forsaken in the fast pace of medical education and practice. In a career so dependent upon looking forward – to the next deadline, exam, grant application, or patient demanding attention – it is vital to look back on the experiences that shape us as individuals and as a professional community. Our featured authors chronicle the wealth of experiences one accumulates even in the early stages of a medical career, all of which merit critical reflection.

Physicians are fortunate to be exposed to diverse and powerful narratives on a daily basis, even from within the boundaries of a single clinic or specialty. Each interaction with a patient is a unique link to a common thread of human experience. Atalie Thompson (SMS IV) relates a common lesson from two seemingly disparate cases. Rachel Talley (SMS III) illustrates the challenges that the realities of medical practice pose to expressing empathy and comprehending suffering. Powerful reflections are also born from venturing to new environs that necessitate adjustments to new customs and climates. Departing our comfort zones throws past experiences into relief, often forsaken in the fast pace of medical education and practice. In every stage of medical training challenges individuals to confront stress of unprecedented magnitude and quality. Addressing such often requires humor in balance with serious reflection. Woody Chang (SMS III) ruminates on the recent finding that medical school student body presidents may have shorter lifespans. The Stanford entering class of 2010 responds to a survey regarding their recent experience taking their first major board examination. This issue concludes with our traditional Leaders in Medicine column. Mihir Gupta (SMS III) interviews Philip Pizzo, M.D., Dean of the Stanford Medical School. Dr. Pizzo reflects on a decade of leading the Medical School, and imagines where it may reach in the decades to come.

We hope you enjoy this issue of H&P.

Sincerely,

MHIHG UPTA AND AARTI SHARMA

Every stage of medical training challenges individuals to confront stress of unprecedented magnitude and quality. Addressing such often requires humor in balance with serious reflection. Woody Chang (SMS III) ruminates on the recent finding that medical school student body presidents may have shorter lifespans. The Stanford entering class of 2010 responds to a survey regarding their recent experience taking their first major board examination.

We are pleased to include in this issue the collaborative poem written by members of the creative writing class presided over by Audrey Shafter, M.D. Several medical students have graciously agreed to publish their collective works, all of which illustrate concrete and metaphysical philosophies towards the body. Their poems demonstrate the importance of utilizing diverse literary forms to reflect on one’s experiences; the medium, more often than not, may indeed be the message.

This issue concludes with our traditional Leaders in Medicine column. Mihir Gupta (SMS III) interviews Philip Pizzo, M.D., Dean of the Stanford Medical School. Dr. Pizzo reflects on a decade of leading the Medical School, and imagines where it may reach in the decades to come.

We hope you enjoy this issue of H&P.
Mr. H died on 5/4 at 14:20 after cardiac arrest. The patient had been made DNR by his wife after his course worsened acutely in the setting of multiorgan failure. I read the ICU discharge summary and groaned—another cirrhotic lost.

Then I think of Miss Laura.

MISS LAURA HAD CHARMED US WITH HER BIG SMILES AND SMOKY LAUGH—a side of her that increasingly vanished as she slipped down the slope toward hepatic encephalopathy. She drew daily pictures of clocks, which helped us track the bad humors lacing her brain like arsenic. One Tuesday, I couldn’t quite distinguish the numbers on the clock-face. Yellowed hands trembling, she collapsed back on her pillow and began the cycle of choking breaths and snores that signaled her decline.

I remember doing a double take when I met her younger sister Ann. “She was always the “older sister”—born old!” Miss Laura had winked up at us. Having seen her older sister traverse the sixties and seventies in full flower-child style, Ann had decided to pursue college and a law degree. Dressed in her business suit, she turned to me and asked, “Can I write a letter to get her on the transplant list? I have money if that is what it takes.”

It would take more than money, though who could argue with the idea that Miss Laura might not have decompensated if she had had more than Medi-Cal, known a hepatologist, or even obtained routine medical care? As the days passed and we fought to get this mother of two transferred to a transplant center, certainly discussions of finances were not rarities. After all, who would take care of Miss Laura after the transplant? Who would pay for her medications, feed her, and bring her to follow-up appointments? Moreover, even if we could scrounge together the material and physical support to care for her, even if a new liver saved her life now, it would not be the end of Miss Laura’s story. “Transplantation is replacing one disease for another—never forget that,” the hepatologist soberly announced to a teary-eyed family. I never did.

Before long, Miss Laura developed a fatal complication I had never heard of in my preclinical years—hepatorenal syndrome. The toxins her cirrhotic liver could not clear were mysteriously preventing her kidneys from creating urine. Gradually, the toxins her kidneys failed to excrete began to exacerbate an already adverse situation. On that Tuesday when she fell back to her pillow, I did not know she would never wake up again—that she would not recognize my presence or be aware of her surroundings. But I felt worried enough to get my resident.

“Her lungs are drowning,” we explained to Ann on the phone, as we glanced at the whited-out lung fields on the CXR. “We might need to take her to the intensive care unit and put a tube in her throat to help her breathe.” The rhonchorous sounds emanating from Miss Laura’s chest might have been relieved by using a needle to withdraw the fluid bathing her lungs. But because of her cirrhosis, Miss Laura could bleed to death from a needle poke. Within hours she had been intubated.

Over the next few days, I continued to follow Miss Laura’s case and spent time encouraging the family until I had to rotate to another hospital. In fact, I never found out what finally happened to Miss Laura. But I had kept a small flame of hope alive in my heart.

They say that medical training changes you, and not for the better. Two years later, as I read Mr. H’s death certificate, I remember Laura. How hopeful I felt then against impossible odds—how different I feel now. They never tell you about this side of medicine—the losing side, the watching patients die, the walls you subconsciously start to erect so you don’t get too attached. Yet no doubt it was my relationship with Miss Laura, even my attachment to her, that conjures up her smiling face today. A winking eye, a smoky laugh, all so characteristically Laura, reminding me of why I became a doctor.
WHEN YOU READ ABOUT YOURSELF IN A SCIENTIFIC PUBLICATION...

WOODY CHANG

ABOUT A MONTH AGO, A FRIEND OF MINE E-MAILED ME the message “woody and class reps, be careful!” and a link to an article on PubMed. The article in question was entitled “Death Rates of Medical School Class Presidents,” published in the June 2004 issue of Social Science & Medicine. The authors of this paper concluded that – when controlling for age, gender, and race – medical school student class presidents die, on average, two years sooner than their non-president counterparts.

I never imagined that there would be such drastic ramifications of being the SMS student body president. After all, when I signed on, I was looking forward to a year of service to the students of the school and working with the faculty on important issues. But, in reading this article, I instantly fell to grieve for the years being plucked out of me like the funny bone from the Operation board game.

Can you imagine seeing yourself as a possible data point on a Kaplan-Meier death curve? Thanks to this article, I now have. Well, I hope you’re both happy, Donald Redelmeier and Jeffery Kwong. I hope that you both are proud of yourselves for adding more stress to my life. More importantly, your conclusions are making the lives of all medical school students miserable, especially mine! I take the conclusions of this paper as a personal offense and feel that you both are unfairly targeting people like me who are dedicated to the betterment of the lives of all medical school students. You can expect, from me, some nasty e-mails and sternly worded letters with no return address - both expressions of my ire and wrath.

I still think the research is wrong. Woody Chang is currently a fourth-year medical student and the former Stanford Medical Student Association President. He is currently working on a bioethics manuscript that will probably not reference a Nature paper.

References:
A LOOK BACK AT

Every spring, second-year medical students across the world take the United States Medical Licensing Exam (USMLE) Step I -- the first of many board exams in their medical training, and perhaps the most intense. In the words of one Stanford student, “Step I was the most studying that I’ve ever done in my life.” H&P has invited the second-year class to reflect on the months of preparation leading up to the Step I exam:

What helped you survive the Step I study period?

-- “Cooking large pots of various soups on the weekends”
-- “Reality checks from a clinical student”
-- “Zumba every week”
-- “Good friends and weekly dinner at Darbar”
-- “Someone else doing my dishes”
-- “A 4-foot by 6-foot whiteboard”
-- “A DJ Tiesto and Ashley Wallbridge playlist”
-- “An awesome study buddy”
-- “Home cooking”

My special/secret/awesome study spot was...

-- “Starbucks. Every single one.”
-- “The Lane Library Redwood Room”
-- “Yerba Buena in San Francisco”
-- “Anywhere without a computer”
-- “Coupa Café”

H&P extends its sincere gratitude to the Class of 2010 for responding to this survey.

THE USMLE STEP I

How did you celebrate after the exam?

-- “Drank a glass of white wine with my college roommate and partied with the family at home.”
-- “Went to Monterey - ate clam chowder, sat on the beach all weekend, went to Monterey Bay Aquarium and saw leafy seahorses.”
-- “Caught up on episodes of The Colbert Report.”
-- “Slept. A lot.”
-- “Top Chef marathon and chilled with family downtown.”
-- “Watched the series finale of House, M.D. - which was on the night I took my exam!”

Words of wisdom for incoming second-years

-- “Be kind to those who are taking the test with you. Consider that everyone comes from a different place and everyone studies differently.”
-- “You can’t control what questions you get on the exam. But at the end of the day, know that you studied your butt off ... and that you gave it your absolute best.”
-- “Study hard, play hard. But not both simultaneously.”
MEDICAL STUDENT POEMS FROM INDE 211: CREATIVE WRITING

HUMANITIES

Every year, the Stanford Medical School offers a creative writing class (INDE 211) led by Audrey Shafer, M.D., professor of Anesthesiology and co-director of the Biomedical Ethics and Medical Humanities scholarly concentration program. Participating students traditionally write a collective poem for recitation at the annual Medicine and the Muse Symposium, held this year on April 11. This collection translates each student’s internal ruminations upon a particular body part to a succinct literary morphology.

GOING WITH THE FLOW
CASEY MEANS
Oh! If all the world’s brains could be transplanted with kidneys, surely there would be world peace.

For, with nary an angsty rumination, the kidney’s picky fenestrations force good to stay and toxic to go, foot-processes trap the essential for blood, while letting waste proceed to a urinary fate, and, at the last minute, for a perfect balance, tubule channels awaken — and pump! — before the fluid all drips to the drain.

Indeed, if intolerance were urea and acceptance were glucose, we’d mindlessly fill ourselves with a perfect plasma of joy.

Oh, how simple it would be. If we could all just learn to flow.

H&P: The Stanford Medical Student Journal

Summer 2012, Volume 16, No.1

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HUNGRY EYES
MARK TERRELONGE
A shadow deep in mist beckoning weary travelers un-wavered by its demeanor.

Mesmerizing.

Reflecting the idyllic treasures that lie ahead, still a kaleidoscope filled with beads of centuries past surrounded by thin rivers of blood.

Tired from sampling a thousand too many tasteless souls, hilling to the echoes of unwelcome suitors, hiding behind a delicate veil of flesh and tears.

NOSTRILS
AARTI SHARMA
They look above me for windows but that is such a nebulousness I have a sill, and a hinge, and an adamantine latch I undulate with the breeze bloom with the tempest look at me I am not appendage

THE MOUTH
LOUISE WANG

The mouth knows to crave words even when the body denies their use.

It prepares to absorb them in sequence, spreading open lips so the syllables ricochet through the chattering of teeth, breaking free of the envious tongue.

Choosing its delicacy wisely, it prefers graham cracker to gâteau: after the initial taste buds stop reacting and the action potential ceases to fire, the promise of foreign treat pales against familiar sustenance.

The way the mouth can devote an evening to one sentence, but it’s not repetition. Emulsion is not emulsion.

It soaks with tone and infinite permutations, a familiar taste made new again.

Jai Medhok
Mihir Gupta
Mike Gupta
Hollow orbs, filled
With substance and life
Their chambers pulsing
Curtains dance in feverish rhythm
to the striking light.

Warm yet enticing
You look at them, at me,
And see
A fleeting glimpse of my soul.

Windows forever widening
with the waning sun
looking out but never in.
I sometimes wish they were mirrors,
these windows
For they trap me inside
Behind
The chocolate darkness of these eyes.

Why do I say, “my hand hurts”
instead of “I hurt”?
Is my hand me,
hopes aching down to the tips of my fingers,
dreams circling the knuckles, nails whispering, “yes, please”
Or is it something I own,
this smoothly-laced glove lying curled in my lap?

From the soft flesh of the palm I feel the world,
hold its textures sweet and near.
Closer, closer, can I swallow it whole?

At night, wrinkles huddle together in the warm folds of my thumb.
They murmur secrets of rough tables, of dripping coffee cups.

I clasp your hand, feel its weight tug at my skin
But do I hold your hand,
Or do I hold you?

To the world that sees
the me I cannot see
Set me free
Tell me
Who do you see?

After an accident, a man can be reduced to thin slices. His black lungs will curve towards one another
like nestled mangoes, their tree of vessels darting out to the rim like so many shooting stars.

These hands are scrappy hands
I have known them
to stop a wild horse
racing the train across the Colorado prairie

These hands are honest hands
They’ve greeted sunrises and strangers
held the hand of a lover
and have tried to fight fair

But what I want to know is
if they are healing hands
Will they be deft with scalpels
and give peace to a fevered body?

These hands fold quietly, waiting for their chance.
A PROFESSOR AT THE UNIVERSITY SAYS PROVIDENCIA ISLANDERS ARE LIKE CRABS: “You are walking around and you feel that there are eyes on you, but you can’t see them.” I won’t understand this until I arrive in Providencia and hear the crabs scuttling through the grass or clattering over tiles, peering at me from behind flowerpots. It takes me a full day to realize that they’re crabs, not cats or turtles or any other creature. At night, I think there are rats in the walls, until I realize the sound isn’t just rodent claws scrabbling against the wood—it’s something hard, ungainly, long-legged.

JUNE 18, 2011

SANTA ISABEL, PROVIDENCIA

The air conditioner is broken, and the front keeps falling off onto the bed with a crack and a thud. I’ve learned that the chirruping in the kitchen is from lizards, not birds, and the worst bites I get are from little black flies that raise white welts the shape of a small country before fading into little red hillocks.

In town, I see a lamp post with a light bulb in one side and a bird’s nest in the empty space in the other, a funnel, with straw and stray down, and at home, I feel the soft bulk of the little orange kitten at my feet. He pleads, but I think he is fierce. Last night, he ran in my neighbor’s front door, open in the heat, and ran out with a mouse.

JUNE 22, 2011

SANTA ISABEL, PROVIDENCIA

On the way back, he points out medicinal plants. I learn that guinea hen is actually a plant, with a potent smell when you peel its roots to the white core. When I ask him to name plants, he says, “If I came to California, to your home, and I brought back some fruit that doesn’t grow on the island, people will call that my fruit. So we got Bertha’s vine, Bertha’s flower.” He points at a tiny purple flowering grass. That’s Bertha’s flower, named for another neighbor’s late sister. She brought it back from Caiman to treat her diabetes.

JULY 9, 2011

SAN FELIPE AND MANCHINEEL, PROVIDENCIA

It’s difficult to explain the ways in which Providencia is insular. Everyone knows my face now, has seen me at the school or on my motorcycle, is the cousin of a friend who asked who I was. In the center of town, a friend of a friend yells, “Pria?” from the bed of a pickup truck, even though she’s never seen me before, because I look the way someone named Pria ought to look.

JULY 8, 2011

LAZY HILL, PROVIDENCIA

Today, my neighbor shows me the beach behind his house. Before we leave, he grabs his machete from the porch—“I never go anywhere without my machete.” In the back, he’s growing melon and sweetsop and soursop. The ground is littered with ripe plums, bright red. It’s overgrown, and he hacks a path with his machete in one hand, swinging it loosely to clear vines.

We slide under one barbed wire fence and step over another, walk down a path to the edge of a low cliff over the water. There’s coral below. It’s low tide, and we can see it protruding from the water. He points at the dark spots on the coral—sea eggs, with a spine that can break off in your foot. This is a good place to snorkel, he says. The actual beach, with sand, is towards Aguadulce from here. It’s tiny and flat, and he calls it White Man’s Beach. He says it was named for a man who was up on the cliff, much higher, taking pictures, and fell to his death. People say that he was pushed.

JULY 13, 2011

SANTA ISABEL, PROVIDENCIA

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JULY 13, 2011

SANTA ISABEL, PROVIDENCIA

Here’s what I learn from my friend in town: In the old days, when everyone gave birth at home, the midwife would have them blow into a conch to help them push through the pain. They’d do the same if the woman had trouble delivering the placenta.

My friend says they’d lock up the new mother without light or air for nine days, and that she couldn’t leave the house for another thirty. On the last day of the mother’s confinement, the midwife would give her a green bath with leaves from the bush, and she would be free.

Sometimes, babies were born on boats, and the captain
and sailors had to take care of them. Our friend was born on a boat lost at sea on the way to Panama.

When a baby was born on land, they’d bury the placenta under a tree, and when the navel string dropped off, they’d bury that, too.

The reef is royal colors, dark purple and gold, and when it dies, it’s bleached white and smooth. On a cloudy day, the colors of the reef aren’t startling, except where it’s dead, sickly and hard and ostentatious.

By the gate, there’s a steer skull and a sign that says they sell honey from bees here. I’d like to buy some honey. The house is ringed by flowerpots and plants, and on the patio, there’s a tiny, low table with a blue mosaic top. There’s a well-kept dog, and their water cistern is painted with a sun and a rainbow.

The bees they keep were wild here, something Italian. They travel up to three kilometers from the hives, in Aguamanza and Rocky Point, up the peak, and they mostly feed on wild flowers. There’s a black wooden box in the yard like the hive, but the beekeeper says that’s where they keep old frames so the wax will melt in the sun and they can mold it into things like candles. He brings me a nugget of wax, smooth and pliable, and then shows me an old frame, the wax black and the hexagonal cells still perfectly intact. They haven’t started to sell the wax yet, but his daughter molds vases for flowers out of clay with tiny wooden tools, and she works the wax into the clay.

The beekeeper walks me across the street to show me the rest of his hives. They’re in the woods, on the other side of a barbed wire fence and a sign that shows a man and bee—keep away. There’s a clearing here, in the middle of the woods, and thirty hives backed by a flamboyant tree.

There’s a tank of water swimming with tiny minnows, and the beekeeper says it’s biocontrol. They use the bees for the bees to drink, especially in the winter, when it’s dry—it’s crawling with bees then—and the minnows eat the algae in the water.

In the woods, he shows his daughter and me a grave. His daughter asks if there was a cemetery there. No, he says. People used to bury their dead by their home to keep them close.

In Old Town, I visit a woman who spends an hour looking for a book of stories that she collected about the island, in one of the soft-cover graph notebook papers that she used for school assignments, the ones with stylized drawings of flowers or photos of blonde girls and puppies on the covers. She even had a title: “Disasters of the Island.” The book was about a shipwreck, about a plane crash, about an uncle who came to Providence to buy land and, on his way back to San Andres by boat disappeared, never arriving at the other end.

She wrote about the hurricanes, 1940, 1961, and 2005, that leveled Providence. She says that when Hurricane Bertha came in 2005, the old people thought it was just a breeze—nothing like the others they’d lived through. Providence is at the mercy of the water. It’s a place of shipwrecks and hurricanes and epic rains. It’s a place of uncertainty—unforeseen potholes and stolen gas and a plane that just drops out of the sky and an uncle on a boat who never arrives at his destination.

When I get to the house up in the bush, my friend is finishing up his dinner—fish in a bowl—and sitting on the back porch. He scrapes the leftovers over the railing for the cats—two black and white kittens, one orange and big. There are chickens all over his yard, some fat and glossy, a few adolescents, still scruffy, and some tiny white and yellow chicks, one with no down on his dark wings. We can hear the chicks peeping throughout the interview, tiny, light voices, and some clucking from the two fat orange hens settling on the edge of the porch. “Have a lot of chickens,” he says.

He’s lived in this house for 92 years. The yard is overgrown now, but up above the bush, I can see a mango tree and an orange tree. On the porch, he has a potted plant and two hanging planters in the shapes of birds, green tendrils curling out from their backs.

When I mention flowers, he gets excited. “Flowers? Oh, she used to have a lot of flowers there! She used to plant flowers, ooh, everybody come and get flowers. Bertha’s flowers, they come and get it and plant. Everybody come and get. We still have flowers here from them days,” he says. “From them days, we have a lot of flowers. She used to plant those flowers like these,” he points at the planters and pot on the porch. “See? Down there, she used to plant. We have one down here from Bertha’s days that she plant.”

He points out into the overgrown green where his sister Bertha once gardened. I see bananas and trees and long grass, but only one flower, a tiny one, growing like a weed by the shed.
I paused, losing the eye contact that I had learned was so important. I couldn’t help it; my eyes instinctively darted away to look anywhere else as hers reddened and dampened with tears. There was a moment of blankness and confusion as my mind cast about, finally settling on the familiar words after a few beats of palpable silence. “Oh, I’m sorry to hear that.” Barely louder than a sigh. She nodded briefly, swiped her hand briskly across her cheek, and seemed to regain composure. It was over. I hastily pulled myself back into more familiar territory, regaining the usual confidence and volume in my history-taking voice as I moved to the next question.

“I’m sorry to hear that.” It’s what I’ve been taught to say when a patient has experienced a loss. When the patient says that his wife died of cancer two years ago. When the patient says that her sister is in the hospital. “I’m sorry to hear that.” “Oh, I’m sorry to hear that.” Best said with firm and sympathetic eye contact. I remember practicing the phrasing over and over in various staged scenarios in an effort to make it come out naturally, an exercise that seemed strangely oxymoronic.

From the first week, we were taught to practice patient interaction in the same way you might practice a procedural skill like suturing or placing IVs. It seemed to be part of a collective societal acknowledgement that we have lost our way in forming the physician-patient therapeutic alliance, that elusive bond that facilitates the sharing of one’s deepest secrets after a few minutes acquaintance. Somewhere amidst the poking and prodding, the drawing of blood and urine, the ever more refined procedures and sensitive tests, something intangible that formed the essential core of medical practice was disappearing. I’ve never really taken to the procedural part of medicine; the patient story is what draws me in. I felt some validation in being taught to practice human interaction. It seemed to elevate the part of medicine I love most and place it on equal footing with more mechanical aspects that often seem to get more credit. And so, just as I practiced tapping for reflexes and listening to lungs, so also I sought to refine my ability to build a bond with my standardized patients through careful repetition.

But sitting in this examination room, confronted for the first time with this real human being whose husband had died 3 months prior, I was momentarily brought up short. My words of sympathy felt hollow and inadequate as I offered them to the silence. We’d prattled on as though we were the best of friends only moments ago. She’d told me all about the painful rash that had brought her in, her daily diet and exercise, this medication and that childhood illness, her new job. I played the part of her closest confidante, and for a few minutes there, it almost felt as though I was. And then that unexpected moment arrived and it felt false, a carefully constructed alternate reality that had fallen apart. It’s wasn’t that I didn’t mean what I had said when she told me. It was just that it didn’t matter how sincerely I meant it, how much compassion I could breathe into the words. For all that she had been telling me the most intimate details of her life, I didn’t really know her. And this wasn’t about getting to know her, at least not the sorrow that I had just glimpsed. This conversation was a tool for gathering a specific subset of information, as one might gather a blood sample. I didn’t know how big a part of her that sorrow was; was it a deep, constant, and crippling sadness, or perhaps a nearly healed scar that only stung a little? I never will know, because that wasn’t what she came for, and there simply wasn’t time to explore it. She had come to fix her rash, and our fifteen minutes was almost up.
THE STANFORD FLU CREW

JAMES XIE, SWETHA KAMBHAMPATI, RACHEL RIZAL,
RISHI MEDIRATTA & KELSEY HILLS-EVANS

BACKGROUND

The Stanford Flu Crew began eleven years ago when Dr. Walter Newman, a family physician and adjunct associate professor at Stanford University School of Medicine, taught several first year Stanford medical students how to give flu shots and took them to a local farm to provide farm workers with donated flu vaccine. Today, the Stanford Flu Crew is the largest and most dynamic influenza prevention program of any medical school in the country.

Although not a required activity, Flu Crew has become a Stanford tradition, and the majority of first year medical students participate - 75% of the 2010 first year class. As they start their journey in medical school, students are educated about the pathophysiology and epidemiology of the influenza virus, and given supervised hands-on training in proper vaccine administration and bedside manner. With this training, students are equipped to provide thousands of vaccines and gain confidence in their first medical procedure.

The Flu Crew serves as a model for other institutions to provide unique medical student opportunities and leadership experiences while simultaneously positively impacting local communities.

Today, Flu Crew continues to immunize farm workers, although on a much larger scale than that of Dr. Newman’s original crew. The organization has also expanded into seven new programs.

CAMPUS DINING HALL VACCINATION PROGRAM

Since 2009, Flu Crew has been immunizing students in dining halls, spurred by the H1N1 pandemic which targeted adolescents and young adults. In 2011, the Flu Crew ran six vaccination sessions on Wednesday evenings in dining halls on campus. The familiar and convenient locations were successful in drawing large crowds: 150-300 in a typical session.

By bringing immunizations out of the clinic and directly to the client, Flu Crew has increased the proportion of students vaccinated. Pre-medical undergraduate students were recruited to help with the flow of patients, which also fostered a community of mentorship between the medical students and undergraduates.

Campus and undergraduates.

STANFORD UNIVERSITY EMPLOYEE HEALTH

Since 2010, Stanford Flu Crew has collaborated with Stanford University Employee Health to immunize university faculty and staff at their workplaces around campus.

Dr. Patrick O’Callahan, Director of Stanford Employee Health, has been instrumental in this partnership. He sees the Flu Crew’s involvement in employee vaccination as an opportunity for university staff and faculty to experience first-hand the product of their daily efforts: first-year medical students successfully administering a small but important part of their health care.

“This brief interaction with the flu crew was a powerful reminder for many staff members of the effort that their individual jobs support,” O’Callahan said. “On the other side, the students were able to learn a little about and appreciate the huge number and variety of university employees who work to support their education here at Stanford.”

VOTE AND VAX 2010

On November 2, 2010, the Flu Crew organized the first medical-student-initiated Vote and Vax. Students gathered at two polling stations in Santa Clara County to provide free and discounted flu shots to voters. Stanford Vote and Vax received international publicity, including recognition on NPR, CBS and other media outlets. Flu Crew is now planning ahead for the 2012 election season.

CARDINAL FREE CLINICS

The Flu Crew immunizes low income and uninsured patients at the two Stanford Free Clinics, Arbor and Pacific. Students run a weekly “flu hour” at each of the clinics. Patients and their families receive free influenza vaccines. In 2011 the Flu Crew was also able to couple the administration of flu vaccine with pneumococcal vaccine.

CITYTEAM MINISTRIES HOMELESS AND WOMEN’S SHELTERS

In 2011, Flu Crew partnered with CityTeam Ministries, a nonprofit organization that works with homeless communities and runs a shelter for addicted, abused or homeless women and their children. Not only were flu and pneumococcal vaccines administered to people at the shelters, but students were able to reach out to this especially vulnerable population and make invaluable connections with this often neglected part of the community. As one woman said, “Your team service to us, my sisters, and their children was the greatest blessing we had.”

CHURCH IMMUNIZATION PROGRAMS

This year, the Flu Crew has also worked with two local churches, St. Leo’s Church and Our Lady of
Guadalupe Church in San Jose, CA. Bringing preventive health care to the congregants provides a valuable service to predominantly Spanish-speaking, low-income communities. This effort symbolizes the principle Flu Crew strongly embraces: that delivering health care directly to the people where it is most comfortable for them, rather than waiting for them to come to the hospital or clinic, is the most effective way to reach the population.

SISTER PROGRAMS
With the decade long history of success and expansion of the Flu Crew at Stanford, the Flu Crew developed a “Tool Kit” of training documents and step-by-step technique videos to guide interested medical schools in starting their own programs. The toolkit has been sent to student leaders at University of California, San Francisco, University of California, Los Angeles, Dartmouth, Mayo, and Yale medical schools.

Given the proximity of San Francisco, Flu Crew collaborated with UCSF in trainings and vaccinations, laying a foundation for the UCSF sister program. The UCSF program now works with City Team Ministries to vaccinate San Francisco and Oakland’s homeless communities. This program is a model for vaccine education and clinical experience for medical students that can hopefully be expanded to many schools across the country.

STUDENT PROFILES

Kelsey Hills-Evans has had a lot of experience training and educating individuals about the flu before coming to medical school. In college, she was commissioned by citizens in Atherton, CA, who were concerned about the Avian Flu. Team ing up with other Stanford students, she created a training module for pandemic influenza readiness. Since then, Hills-Evans has generalized the training modules to be more applicable to other communities around the Bay Area, like East Palo Alto.

After entering medical school, she became interested in the Stanford Flu Crew. She has taken her experiences with pandemic influenza in college to help update the training materials used to teach the medical students and physician assistant students. The lessons cover information about the flu and how to give proper immunizations. Hills-Evans said her role with Flu Crew has been extremely rewarding.

“Every person that we trained regarding influenza, that’s another doctor that is aware,” Hills-Evans said.

Outside of developing the training materials, Hills-Evans has enjoyed vaccinating low-income community members. She said her favorite day of medical school so far was immunizing patients at a homeless shelter in San Jose. She was impressed by the tight-knit community at the shelter. She said one aspect of the Flu training that has been particularly effective is the idea of “social touch, medical touch, social touch,” which refers to Dr. Newman’s motto for sandwiching medical procedures in between healthy doses of personal interaction.

“When I experience the social touch in a clinical setting, it actually makes a world of difference,” Hills-Evans said.

Mia Kanak’s most memorable patient was a 5-year-old boy at an abused women’s shelter who was scared of shots. She positioned the little boy on his mother’s lap and convinced the boy that shots are not painful by vaccinating his mother first.

“It was such a confidence builder for me knowing that I can vaccinate a child and not have him cry,” Kanak said.

In the fall of 2011, Kanak played a lead role in expanding Flu Crew’s vaccinating efforts to a CityTeam homeless shelter, CityTeam House of Grace women’s shelter, and Our Lady of Guadalupe church. When she approached these organizations, she was struck by how appreciative they were in partnering with Flu Crew to address unmet health needs.

“As enthusiastic and excited as I was in reaching out to these communities,” Kanak said, “the organizations were just as enthusiastic in partnering with Flu Crew. It was an incredibly touching experience because after we gave free shots, we all thanked each other over and over.”

Mia Kanak
MD Candidate Year 1

Not only is Janos developing clinical skills early in his medical education, but also is learning about the value of directly bringing healthcare to individuals.

“I understand how much of a hassle it is for patients to schedule appointments and take time off work to wait in a waiting room and jump through hoops to get treatment,” he said. “It makes sense to go out to communities and vaccinate individuals during their lunch hour when it will take only 5 or 10 minutes of their day.”

Janos Barrera
MD Candidate Year 1

During employee health clinics, the roles are reversed when Meg Tabaka provides flu shots to her medical school professors. She said she enjoys employee health days, because she interacts with a variety of Stanford community members, delivers a useful public health measure, and gains meaningful clinical experience.

She said first-year medical studies are focused on observing others, which can leave students feeling a little bit out of place in clinical settings.

With Flu Crew, Tabaka has learned how to read people better. When patients come for their vaccines, she asks herself, “How am I going to phrase everything? Does this person need a reassuring statement before getting a shot?” By giving good flu shots, she is applying what she has learned in the Practice of Medicine class and bringing prevention to people’s doorstep.

“When patients tell me that I gave them the best shot ever, I feel good knowing that I am not just doing something, but I am doing something well to help my patients,” Tabaka said. “This is a weekly reminder of why we are in medical school.”

Meg Tabaka
MD Candidate Year 1

Participating in Stanford Medical School’s Flu Crew is a natural extension of Janos Barrera’s experiences before medical school. As an undergraduate at the University of Washington, Janos worked to provide healthcare to day laborers who only spoke Spanish. Janos’ favorite experience as a first-year medical student has been vaccinating Spanish-speaking workers at a mushroom farm in Monterey.

“From the farm, I built even more confidence working with Spanish-speaking populations,” Janos said. “I practiced how to efficiently build rapport with patients and learned how to give vaccines and initiate physical contact with them.”

H&P: The Stanford Medical Student Journal

Summer 2012, Volume 16, No.1
ON THE LUXURY OF ETHICS

The Price of Surgery in the Dearth of Resources

ROWZA RUMMA

A SERIES OF DISTANT ‘POPS’ STIRRED THE OTHERWISE SILENT PAUSE IN THE OPERATING THEATRE (OT). IT WAS THAT MOMENT
between consecutive surgeries when the surgeons in the Pediatric Surgery Department of Chittagong Medical College Hospital (CMCH) headed for the few chairs by the wall to get momentary comfort after completing a procedure, all the while awaiting the next case. As all eyes darted towards the source of the sound, a woman in her early-twenties walked in, pushing open the poorly hinged, creaking door to the OT with one hand, while cradling an infant in her other. Her son, a 23 day-old infant, had not been accepting breast milk or any fluid other than very little water since birth, and had experienced persistent frothy oral secretions, revealing the source of the pops we’d heard right before his mother walked in. The child’s family lived in a village about 150 kilometers away from the CMCH tertiary center, where his father pulled a rickshaw - a human-powered tricycle that is the chief means of transport over short distances in Bangladesh - to earn his daily living. The infant looked lethargic, only able to lift his eyelids very slowly between each blink, and barely moving his hands from their resting position near his emaciated rib cage. The previous day’s x-ray revealed an esophagus that blindly ended few inches above the gastric bubble. There was no presence of gas in the bowel and the infant was diagnosed with esophageal atresia very likely associated with a tracheoesophageal fistula (TEF).

The surgical intervention was simple—primary anastomosis of esophageal segments, and if TEF was present, surgical ligation of the fistula. It was apparent even to a 1st year medical student, like myself, that we could cure the infant by this simple intervention. Before the rush of a possibility to save the child could excite me, however, I noticed the settling of a somber atmosphere amongst the surgeons in the room. I didn’t raise my voice to ask them the reason until I heard them discussing which part of the small intestine would be appropriate for exteriorization and inserting a Foley catheter to use as a feeding tube. It turned out that the 28-bed ICU at CMCH (supporting critical patients from the pool of 2000 patients seen at various surgical departments) did not have any neonatal postoperative support to re-

vive the infant, which the surgeons were certain would be necessary. While most of the private tertiary care centers in the city of Chittagong owned appropriate pediatric ICU support as seen in developed countries, they only served the elites of the Bangladeshi society who could afford the care.

This is the face of surgery in the dearth of resources. Housing more than half the population of the United States within a geographic space smaller than the state of Iowa, Bangladesh has the highest population density in the World. Fifty percent of the 162 million people live below the international poverty line of 1.25 million USD per day. Despite selling his rickshaw, the sole source of income to cover traveling costs to the district tertiary care center, the infant’s father could not find a surgical cure for his only son’s illness. As a district teaching hospital, CMCH is the only tertiary care center in the entire division of Chittagong mandated to offer surgical care regardless of the patient and the family’s ability to pay. However, the government subsidy of a meager BDT 8.00 per patient per month, equivalent to 0.11 USD, only scrapes the surface of the $10.93 cost per ‘daily adjusted life year’ (DALY) averted by providing surgical care in the setting of a developing country. The Pediatric Surgery department supplements this unmet cost by raising funds intra-departmentally and soliciting donations from international charitable organizations to stock what they call their ‘poor fund’. Despite the availability of supplemental drugs, instruments (new or reused), and trained medical personnel, the lack of infrastructure as exemplified by shortages of neonatal ventilators in the ICU made the availability of surgical care unviable for a family that had made immense sacrifices to give their newborn a chance of survival.

Investment in surgical infrastructure has been largely overlooked in the arena of global health, where surgical care has been historically perceived as a cost-in-effective medical intervention. Dr. Paul Farmer and Dr. Jim Kim have termed surgery to be ‘the neglected step-child of global health’. The key arguments included 1) the high cost per DALY of providing surgical care in the developed world, 2) dependence on technological support, and 3) a low impact on public health of a developing country where chief causes of mortality and morbidity were of infectious etiology. There had not been much effort to make population-wide assessments of the global burden of surgically-treatable diseases to refute the latter claim, until works like that of Dr. Haile Debas and colleagues showed that currently 11% of the world’s total DALYs can be attributed to surgically-treatable diseases. Data published by Dr. McCord’s work in Bangladesh showed that contrary to prior belief, the cost per DALY of providing surgery in the developing world can be as low as $1 in a community clinic or $38 in a district hospital, comparable to widely accepted global health interventions like measles immunization. Despite the availability of supplemental drugs, instruments (new or reused), and trained medical personnel, the lack of infrastructure as exemplified by shortages of neonatal ventilators in the ICU made
geons, anesthesiologists and other medical personnel who form a surgical team. According to the World Health Organization, currently there are 2.7 physicians per 1000 people in the US. When comparing these statistics to those of low-income nations, we find values like 2.95 physicians per 10,000 people and 2.5 physicians per 10,000 people in Bangladesh and Haiti. An even smaller fraction of this physician density comprises surgeons, who usually practice mostly at private hospitals serving the elite few. In Bangladesh, for the 50% of over 162 million people living on less than 1.25 USD per day, public hospitals are the only sites where they may seek surgical services. As a result, the surgical departments of these hospitals encounter high patient volume managed by a handful few members of surgical house staff. At the Pediatric Surgery Department of CMCH, a regular roster would have about 15-20 patients on average scheduled for surgery within the six hours of an OT day, with one general anesthesia (GA) panel and two operating beds dedicated to open procedures and another to laparoscopy. A team of 3-4 surgeons, one anesthetist, one nurse, one nurse’s assistant and 1-2 interns manages all procedures with the minimal equipment available. It is a perpetual race against the clock. The thought of children (aging from neonates to 12-year-olds) waiting NPO for hours to receive the anesthetic is not a use to this stringent relationship between the surgery and anesthesiology departments. Anesthesia is not a service fee that the surgeon is willing to provide them. This in itself limits the number of students entering anesthesiology training. Moreover, the relationships between the anesthesiologists and surgeons at a public hospital, where the latter involve the former in their more financially rewarding private practice cases, take precedence to Pediatric Surgery by the Anesthesia Department is highly-sought surgical procedure, weighs down on the team’s conscience.

One such case was an inguinal hernia repair on an 11-year-old boy I observed while conducting research at the Pediatric Surgery department at CMCH summer of 2011. The OT was short-staffed that day because of an institution-wide administrative event, which most of the house workforce was obligated to attend. We had over twenty patients on the roster and the first case of para-rectal hernia was already past 2.5 hours since the start of the surgical interval. It was decided that the inguinal hernia repair of the next patient (the 11-year-old boy) would be conducted under local anesthesia (LA). Upon inquiring how one could conduct an inguinal hernia repair with locally induced anesthesia, I was told that there are two nerves known to provide somatosensory innervations to the inguinal canal: the iliohypogastric and the ilioinguinal. My mind tried to retrieve the remnants of neurobiology and anatomy to make sense of the distribution of pain-sensing fibers, before moving on to the graver question - if local anesthesia would be sufficient to desensitize the 11-year-old from the pain of the procedure. I was subsequently assured of this fact. A drape was hung to block the child’s view from the operating space and the surgeons loaded syringes full of 5% lidocaine in epinephrine solution. The child cried out and resisted as the needle was inserted to inject the anesthetic in the anatomical locations targeting the two nerves, with care taken to ensure the peritoneum was not breached. The screams did not start at the moment the surgeon began his incision, which brought a fleeting look of relief apparent by the creases dissolving on his forehead. However, as the scalpel blade was being withdrawn after completing the approximately inch-long incision, the OT filled with the child’s cries of immense pain. Two more people had to be recruited to restrain his arms so that he wouldn’t shove the scalpel away or tug on his incision in pain, causing injury in the process. The agonizing procedure went on for over forty minutes instead of the usual twenty minutes for an uncomplicated inguinal hernia repair, since additional time was required to pause and calm the patient, which was nevertheless to no avail.

Generally, a pediatric surgical patient’s family is given a list of equipment and drugs that include everything from the saline bag and IV lines, to anesthesia drugs, prior to performing the surgery. The family of the child hands the requested material and their child after verbally verifying the child’s name and the procedure he or she is scheduled to undergo. Despite the 11-year-old patient’s family’s inability to afford the necessary materials, they paid a price for the procedure in the currency of their child’s screams of agony and pain. CMCH was one of the only options the child had to correct his inguinal hernia, and with the volume of patients the Pediatric Surgery department has to handle, missing his originally scheduled surgery date would have resulted in a wait of several weeks to months while the department would have to fit him in the roster amidst the daily incoming higher-priority emergency cases.

This was one of several cases I observed during my seven weeks of research, with procedures like colon-ic polyp removal, or lymph node excision for biopsies, amongst others, conducted under local anesthesia. The latter situation, however, begs the question of whether the delay in the hernia repair would have been disabling enough or fatal for the child to necessitate him waiting the pain of undergoing the hernia correction under ilioinguinal/iliohypogastric nerve block (IHNB). Under normal circumstances in pediatric care, this procedure is meant for intra- or post-operative analgesia on top of general or spinal anesthesia, as opposed to a form of anesthesia in itself.1 The right to receive medical care is not a price tag only the wealthy can afford.”

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1. Hersh Sagreiya, “Ethical standards in medical practice of the developed world seem to carry an opportunity cost—a price tag only the wealthy can afford.”

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H&P: The Stanford Medical Student Journal

Summer 2012, Volume 16, No.1
investors and the WHO, then has the task of upholding ethical guidelines for their resource-limited counterparts as more than just a luxury.

In the same vein as the WHO Safe Surgery Checklist, this task is attainable if a universally accepted and WHO-approved ethical protocol can be created and promoted. These guidelines, however, will need to be adapted such that the tertiary centers offering sliding-scale or cost-free surgical care in a resource-limited setting are not prevented from treating the maximum number of patients within their given capacity. A need to assess timeline priority of procedures and components of emergency and essential surgeries requires a universal consensus within the arena of global surgery. Each surgical sub-specialty has its own comprehensive criteria for evaluating a particular case’s degree of urgency and that judgment is generally left to the hands of the surgeon. With a limited number of anesthesiologists, anesthesia panels, and other resources critical to conducting a surgical procedure, the degree of urgency has to be provided a chronology, with procedures across sub-specialties stacked together in the temporal order of cases requiring emergency interventions. In order to set recommendations on urgency of a surgical procedure, an understanding of the sequelae of disease and the prevalence of morbidity and mortality from the illness will need to be taken into account. Long-standing medical research provides enriched data on these topics. Research continues to accrue, but unfortunately is specific to each sub-specialty (i.e. gastrointestinal, cardiothoracic, pediatric, etc.). A team of surgeons and other healthcare professionals, under the banner of a recognized organization like WHO, would have to study emergency procedures across specialties in a meta-analytic format to offer a temporal order of their critical nature within the same dimension. This is based on the timeline of complication onset and long-term sequelae that the surgical intervention is targeted to reduce. The key to achieving this gargantuan task lies in thorough assessment of surgical needs in the epidemiological context of the low or middle-income country (LMIC) where the guidelines are intended for implementation. On top of this, the capacity to provide specific surgical care within the existing healthcare facilities will also need to be considered. This input could potentially be obtained from government statistical bureaus.

Looking back at the case of our 11-year-old patient undergoing inguinal hernia repair, we can find out from pediatric surgery literature that the key complications surrounding an inguinal hernia include incarceration, incarceration strangulation, and gonadal infarction. An inguinal hernia is a protrusion of peritoneum, or the membranous covering of the gut, through the inguinal canal, which in males is a space through the abdominal wall through which the spermatic cord and testicular vessels travel in order to reach the scrotum. It is a sealed space in females. In pediatric patients, inguinal hernias are generally due to the failure of an embryological structure, called the processus vaginalis, to close properly. An inguinal hernia is said to be incarcerated when the content in the ‘hernal sac’ contains structures such as the small intestine, caecum, appendix, omentum, or ovary and fallopian tube. These cannot be easily reduced. If left untreated, an incarcerated hernia can become strangulated, which occurs when either venous or arterial flow from and to the structure contained in the hernial sac is compromised, endangering the structure’s viability. From a similar mechanism, there could be testicular infarction, causing death of testicular tissue (or ovarian tissue in female patients).

Data from the literature indicates that an even older patient, such as our 11-year-old patient at CMCH, could have waited for a herniotomy for a month without any significant risk for hernia-related complications or significant morbidity or mortality, instead of subjecting him to the psychological trauma and agonizing pain for forty minutes. The surgeons could have decided on rescheduling the 11-year-old boy if they had standardized guidelines for making such a decision, instead of doing so blindly in the midst of the mad rush of a developing country’s tertiary care-center’s operating theatre.

Ethical guidelines intended for implementation in the developing world should be specific to the context of disease prevalence within the country. Large studies estimating the worldwide disease prevalence, like the global burden of disease (GBD) in 2001, are yet to include diseases that can be cured, palliated, or treated by interventional methods. These include not only surgical interventions, but also vaccinations, antiretroviral chemotherapy, and others. Estimates (such as those provided in the second edition of the DCP) suggest that 11% of the global disease burden is surgically treatable, with diseases lumped under broad categories like injuries, malignancies, cataracts, obstetrical complications, congenital anomalies, and perinatal conditions. This general estimate is on the rise, as developing countries undergo a demographic shift, where the chief causes of mortality become non-communicable diseases. According to Daar et al, about 80% of deaths in LMICs are now attributable to chronic, non-communicable illnesses, twice the number of deaths due to infectious causes, maternal and perinatal health-related issues and nutritional deficiencies. In order to estimate the true need for surgical interventions, the different conditions requiring the procedures need to be considered separately and more comprehensively. WHO has an active presence in several developing nations and can utilize the demographic surveys they have conducted yearly, as of several years now, to include surgically treatable diseases.

Implementation of any intervention in a resource-
limited surgical practice should incorporate an awareness of the additional time burden it demands. Time is one of the most significant limiting factors in determining the number of patients who will receive access to surgical care in a third-world tertiary care center. Moreover, the fickle nature of power availability (necessary to operate vital physiological monitors, anesthesia panels, and other equipment) in such a setting has to be factored in the calculations to ensure the nature of power availability (necessary to operate vital physiological monitors, anesthesia panels, and other equipment) in such a setting has to be factored in the calculations to ensure the priority in surgical service in developing countries remains the maximizing of existing capacity to deliver services to as many people as possible. As more surgeons and academic institutions in the west begin to recognize surgery as a necessary medical intervention in the shifting demographics of the developing world, proponents of making surgery a public good and promoting it as an important determinant of public health progressively appear in greater numbers on the global health platform. Endeavors to maximize the surgical taskforce, such as training non-medical surgical personnel in conducting emergency and essential procedures, will bring more players from varied backgrounds into the field of surgical care. In the given times, standardizing ethical guidelines, based on the criticality of a certain surgical case, becomes more important in order to ensure that our efforts to increase surgical access do not come at the price of unwarranted suffering.

References:
Dr. Philip Pizzo, MD, is the Dean of the Stanford Medical School, an office he has held since 2001. He received his Bachelor of Arts from Fordham College in New York, and his Doctorate of Medicine from the University of Rochester in New York. He completed his internship and residency at the Children’s Hospital in Boston. A groundbreaking researcher in pediatric oncology and infectious disease, Dr. Pizzo began his career at the National Institutes of Health (NIH) and National Cancer Institute (NCI). After more than 20 years in research and leadership at the NIH, Dr. Pizzo became the Chair of the Department of Pediatrics at Harvard Medical School and the Boston Children’s Hospital. The hospitals and Medical School have undergone major changes since he arrived, most recently with the construction of the Li Ka Shing Center (LKSC). In light of his recent decision to step down, the faculty have recently appointed his successor. Dr. Pizzo joins H&P to discuss his career, his tenure as Dean, and the future of Stanford Medical School.

Mihir Gupta: As an undergraduate, you majored in Philosophy/Biology. Can you describe that major and the impact it had on your later career?

Dr. Philip Pizzo: I went to Fordham College, a Jesuit school that was very heavy on Philosophy. Biology at the time was much more descriptive, so I’d say I took more insights from Philosophy than I did Biology. Being here at Stanford and being in this role was certainly not something that I would have ever imagined as an undergraduate. But when I look back, I can see how unintended plans – as a Philosophy student, medical student, clinician, laboratory researcher, as someone involved in advocacy issues or administrative roles – have all played an important role in the things I have been doing over the last eleven years at Stanford.

MG: What led you to a career in pediatrics?

PP: Like many medical students, I loved virtually everything and had a hard time making choices. I was very interested in internal medicine because it is complex and there are lots of intersecting components to problem-solving. To be honest, I could not see myself taking care of older people – a position that I have a very different point of view about now as an older person. So I gravitated towards pediatrics, which turned out to be an unexpected but great choice, because I have always loved taking care of children and families. Even there I wound up moving towards the more complicated parts of pediatrics – hence the move towards oncology and infectious disease, and a willingness to take on other complex problems like HIV/AIDS, which wasn’t even known about when I was in medical school.

MG: What brought you to Stanford from the East Coast?

PP: When I was at the NIH, I reached the only time in my career when I made an active choice about doing something different from the role I was in at the time. I had been at the NIH for 23 years, and had a lot of significant research engagements. But over time I became increasingly concerned about one thing: not a new research problem, but rather a new cause and mission. I felt there was an increasing dearth of pediatricians who were training in science and becoming pediatric physician-scientists. This was in the early- to mid-1990s, and by about 1995 I felt that I needed to do something about it. I decided to leave the NIH, which I deeply loved, to move closer to a medical school and ideally a children’s hospital. A position was available at the institution I trained at in Boston, the Children’s Hospital, so I went back as the Chair of Pediatrics at the Boston Children’s Hospital and Harvard Medical School.

When I went to Boston I also believed that it was where I intended to finish my career. Then in 2000, I had a call from a colleague at Stanford asking whether I would be interested in being considered for the role of Dean here. I said no, because I had never thought about it before as an opportunity. A few days later I had another call and I agreed to make a highly confidential visit. While I did know many people at Stanford, I did not know very much about Stanford as a place. I remember thinking that my trip to Stanford would be a half-day visit that I would put behind me.

But I also remember meeting a number of people and seeing something very different than I expected: a medical school connected to hospitals on a university campus that was small and had an extraordinarily rich history in research. It afforded an opportunity to begin to think about some of the issues that I had already been concerned about – education and training – on a larger scale. So I did, at that point, think that maybe I would carry that discussion forward. Over the course of four or five months, I did get to the point where I thought this could be a very interesting opportunity.

MG: What were some of the challenges you faced at the start of your tenure as Dean?

PP: Stanford was then, as you see it now, blessed with extraordinarily wonderful students and faculty. But the medical school was in the midst of major challenges and changes. The Medical School and the University had been in a discussion with UCSF about a potential merger that had not worked – the cultures had clashed, the finances didn’t work. I arrived on the throes of the de-merger. Morale was low, finances were struggling, there was actually a significant loss of resources at both hospitals, and financial bottom lines were challenged. I think the University and the Medical School were not necessarily on the same page. It was a very challenging time where one could think critically about fundamental questions: What is the goal? What is unique about this institution, and how can one begin to build and frame a set of objectives that lead to productive change over time?

MG: What early steps did you take that set the Medical School on the path to where it is today?

PP: Before I arrived in April of 2001, I used the intervening months to visit many times, to speak with a wide variety of people, and to formulate a set of goals and objectives – an outline of strategic initiative that I shared...
leadership role is how easy it is to get away from the groups that you’re serving.”

In the fall of that very year, 2001, we put together about ten workgroups that covered everything from medical education to graduate education, postdoctoral training, basic and clinical research, through the professoriate – size, scope, and nature. We brought the groups together into the first of what have now been 12 leadership retreats with 90-100 people coming and debating how the plans will go forward.

**MG:** Can you talk about the inception of the idea for the Li Ka Shing Center (LKSC)?

**PP:** At the beginning of my time here, there seemed to be no clear understanding of what the physical facilities of education would be. In fact, my job was to renovate an educational facility in the original 1959 medical school complex. A plan had been approved by the Board of Trustees, and I was supposed to begin fundraising. But it became clear that there hadn’t been enough critical thinking about what kind of facilities we needed and why: what are we going to be teaching, and in what ways should we be teaching it? That led to a recommendation to scrap that plan and begin a quest that, years later, became The Li Ka Shing Center for Learning and Knowledge – a much more clearly organized center for learning that can help shape the future rather than stay fixed in ideations of the past.

Long before there was an architectural design, there was a conceptual plan built on the way we thought education would be organized for the future.

**MG:** How do you keep up with the pulse of research and clinical medicine, given that much of your time is outside the lab and clinic?

**PP:** The hardest choice that I had to make in coming to Stanford was to recognize that I couldn’t continue to both be competitive in a research environment and be responsive to the community that I was serving in the School of Medicine. So I had to put my own research aside.

One of the dangers in any leadership role is how easy it is to get away from the groups that you’re serving. I actually do clinical work at the Packard Children’s Hospital in pediatric infectious disease for blocks of time over the year. I do it not in a casual way, but in a real way: being there, seeing the patients, writing the notes, doing all of the things that you do as a physician. I do that not because I have to, but because I want to, because I care deeply about it and get satisfaction from taking care of children and families. Even though I am only able to do this for relatively few blocks of time during the year, it presents a certain level of credibility, so that others in the trenches of clinical medicine will see that I’m there at the same time, at nighttime or in the morning, doing the same things that they’re doing – not as the Dean, but as somebody at their side as an equal.

As an intern, I surveyed every patient to evaluate who taught me the most. It was always the direct experience with the patient that was the most informative – about how one tells a story, reacts to an illness, or becomes resilient and overcomes challenges. So it is, for students beginning their clerkships, a whole new world that little has prepared them for. It’s a frightening world to walk into. No pre-training is ever the same as actually being there and being the first one responsible.

As one begins clinical medicine, you have to begin with the understanding that it’s a lifetime of learning. I’ve been at this for decades, but not a day goes by that I don’t learn something new, that I don’t see something from a different perspective, and that doesn’t force me to go back and re-read the literature, much of which is new. It’s a segue to a privileged position with an enormous amount of responsibility that provides a path to learning at every level, from deep science to deep humanism, and it continues to evolve and grow forever.

**MG:** How do you fit everything into your life? Distance running, career, family – how does it all fit together?

**PP:** It’s hard. I don’t think there’s a magic formula, and it’s different for each individual. As I have moved through life, I see things very differently. I’m not only a spouse and a parent, but also a grandparent of four young children. One of my reasons for evolving from this position of leadership into another stage of life is to create more time for family. In the end, one needs to frame one’s career in context.

Early in my career, I worried a lot about publishing papers – was I advancing in the way that people saw the work I was doing, was the work making valid contributions, would it lead to promotions and opportunity to get funding and grants? As I look back, I’m well aware of those as metrics and accomplishments, but they’re very transient. In time, we all ultimately become reduced to small players on a very large scale of time. When I’m done being Dean, that role and its distinction with it ends. That’s why stewardship is so important: you have to do these roles for others, not for yourself. For myself, the group that I’ll worry about remembering me years from now is my family.

It is hard to strike these balances, and they do occur in different ways over life. They occur differently for men and women – another struggle that we have to work harder at to create greater balance and greater accountability – but they all evolve towards the inevitable. But now I’m getting back to philosophy!