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प्रधानमन्त्री

काठमाडौं, नेपाल



### शुभकामना

मुटुरोगको उपचारका लागि ख्याति कमाएको शहीद गंगालाल राष्ट्रिय हृदय केन्द्रले आफ्नो स्थापनाको २३औं वार्षिकोत्सव मनाउने क्रममा स्मारिका समेत प्रकाशन गर्न लागेको थाहा पाउँदा खुसी लागेको छ । यस अवसरमा म अस्पतालका चिकित्सक, कर्मचारी, यसका शुभचिन्तक र सेवाग्राहीप्रति हार्दिक शुभकामना व्यक्त गर्दछु । देशमा बढ्दो मुटुरोगको उपचार, निदान, रोकथाम तथा अध्ययन अनुसन्धानको अभिभारा वहन गर्दै दुई दशकभन्दा अघि स्थापित यस केन्द्रले गर्दै आएको मुटुरोगी विरामीको तुलनात्मक रूपमा कम खर्चमा गरिरहेको सेवा र हेरचाहको म प्रसंशा गर्दछु ।

हाल विश्वव्यापी रूपमा मुटु तथा यससँग सम्बन्धित रोगहरु मानव स्वास्थ्यको प्रमुख चुनौतिका रूपमा देखिएको छ । मुटु सम्बन्धी रोगबाट करोडौं मानिसहरु प्रभावित हुँदै आएका छन् र लाखौं मानिसहरु अकालमै आफ्नो जीवन गुमाइरहेका छन् । यही सन्दर्भमा अत्याधुनिक उपचार पद्धतिद्वारा स्वदेशमै सुलभ ढंगले विशिष्ट स्वास्थ्य सेवा उपलब्ध गराउँदै लैजाने नेपाल सरकारको नीति अनुरूप यस केन्द्रको स्थापना भएको थियो । केन्द्रले प्रदान गर्दै आईरहेको उपचारात्मक तथा प्रवर्धनात्मक सेवा तथा सञ्चालन गर्दै आएका कार्यक्रमहरु अत्यन्तै सफल सावित भएका छन् । मुटुरोगको उपचारको क्षेत्रमा यसले पुऱ्याएको योगदान अन्य सरकारी अस्पतालहरुका लागि समेत अनुकरणीय हुन सक्छ ।

यस केन्द्रले देशका विभिन्न भागमा शाखा विस्तार गरी उच्चस्तरीय सेवा शुरु गर्ने भएको छ । यो नयाँ सुरुवातका लागि समेत शहीद गंगालाल राष्ट्रिय हृदय केन्द्रका समस्त चिकित्सक, कर्मचारी एवं सेवाग्राहीहरुमा हार्दिक वधाइ ज्ञापन गर्दछु ।

आगामी दिनमा पनि यस केन्द्रले मुटुरोगको उपचारमा नयाँ-नयाँ प्रविधि भित्र्याउँदै नेपाली जनतालाई स्वदेशमै थप गुणस्तरीय सेवा उपलब्ध गराउन सकोस् । २३औं वार्षिकोत्सव समारोहको पूर्ण सफलताको कामना गर्दछु ।

६ माघ, २०७५

के.पी. शर्मा ओली

मा. उपेन्द्र यादव  
Hon. Upendra Yadav  
उपप्रधानमन्त्री एवं

स्वास्थ्य तथा जनसंख्यामन्त्री  
Deputy Prime Minister and  
Minister of Health and Population



नेपाल सरकार  
Government of Nepal



स्वास्थ्य तथा जनसंख्या मन्त्रालय  
Ministry of Health and Population

फ्याक्स : ०१-४-२६२५६४  
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: ०१-४-२६२५६४  
: ०१-४-२६२५६५

रामशाहपथ, काठमाडौं, नेपाल ।  
Ramshahpath, Kathmandu, Nepal  
Website: www.moph.gov.np

## शुभकामना



शहीद गंगालाल राष्ट्रिय हृदय केन्द्रले आफ्नो २३ औं वार्षिकोत्सवको अवसरमा अस्पतालका विविध गतिविधिहरूलाई समेटेर स्मारिका प्रकाशन गर्न लागेको थाहा पाउँदा मलाई अति नै खुशी लागेको छ । नागरिकको मौलिक हकको रूपमा रहेको निःशुल्क स्वास्थ्य सेवामा जनताको पहुँच पुऱ्याई स्वस्थ समाजको निर्माण गर्ने काममा महत्वपूर्ण भूमिका खेल्दै आएको छ । आधुनिक उपचार पद्धतिद्वारा स्वदेशमा नै विशिष्ट स्वास्थ्य सेवा सर्वसुलभ रूपमा उपलब्ध गराउँदै लैजाने नेपाल सरकारको नीति अनुरूप स्थापित त्यस केन्द्रले प्रदान गर्दै आएको उपचारात्मक तथा प्रवर्धनात्मक कार्यक्रमहरू अत्यन्तै सफल देखिएका छन् । आगामी दिनमा मुटु रोगको उपचार र निदानमा देशलाई आत्मनिर्भर बनाउने खालका सशक्त कार्यक्रमहरू विकास गर्दै समग्र नेपाली मुटु रोगीको पहुँचमा आफ्नो सेवालालाई विस्तार गर्ने कार्यमा केन्द्रलाई सफलता मिलोस् भन्ने शुभकामना व्यक्त गर्दछु ।

०९ माघ २०७५

उपेन्द्र यादव  
२०७५/१०/९

उपेन्द्र यादव  
उपप्रधानमन्त्री,  
स्वास्थ्य तथा जनसंख्या मन्त्री

मा. डा. सुरेन्द्र कुमार यादव  
Hon. Dr. Surendra Kumar Yadav

राज्यमन्त्री  
State Minister

स्वास्थ्य तथा जनसंख्या मन्त्रालय  
Ministry of Health and Population



फ्याक्स : ०१-४-२४३६७२  
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निजी सचिवालय  
Personal Secretariat

रामशाहपथ, काठमाडौं, नेपाल ।  
Ramshahpath, Kathmandu, Nepal

पत्र संख्या :

च.नं. (Ref.No.):

शुभकामना



मिति: २०७५/१०/०७

शहीद गंगालाल राष्ट्रिय हृदय केन्द्रले आफ्नो २३ औं वार्षिकोत्सव मनाउने सिलसिलामा आफूले सन् २०१८ मा सम्पादन गरेका क्रियाकलापहरु, वार्षिक प्रगति विवरणहरु संगसंगै हृदयरोगको उपचार, निदान तथा अनुसन्धानात्मक लेख रचनाहरु समेटेर स्मारिका प्रकाशन गर्न गइरहेकोमा खुशी व्यक्त गर्न चाहन्छु ।

अत्याधुनिक उपचार पद्धतिद्वारा स्वदेशमा नै विशिष्ट स्वास्थ्य सेवा सर्वसुलभ र सरल तरिकाले उपलब्ध गराउँदै लैजाने नेपाल सरकारको नीति अनुरूप स्थापित त्यस केन्द्रले मुटुरोग सम्बन्धी अस्पतालको रूपमा सेवा प्रदान गर्दै आईरहेको उपचारात्मक तथा प्रबंधनात्मक कार्यक्रमहरु अत्यन्तै सफल देखिन्छन् । आगामी दिनमा मुटुरोगको उपचार र निदानमा देशलाई आत्मनिर्भर बनाउने खालका सशक्त कार्यक्रमहरु विकास गर्दै गरीबको रेखामुनि रहेका दलित, महिला, जानजाति, मधेशी एवं अल्पसंख्यक समुदायको पहुँचमा आफ्नो सेवालाई विस्तार गर्ने कार्यमा केन्द्रलाई सफलता मिलोस भन्ने शुभकामना व्यक्त गर्दछु ।

मा.डा.सुरेन्द्र कुमार यादव  
राज्यमन्त्री



नेपाल सरकार

## स्वास्थ्य तथा जनसंख्या मन्त्रालय

(.....शाखा)



फोन नं.

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प्राप्त पत्र संख्या :-

पत्र संख्या :-

चलानी नं. :-

रामशाहपथ,  
काठमाडौं, नेपाल ।

मिति : २०७५।१०।०६.....

विषय :-

शुभकामना



शहीद गंगालाल राष्ट्रिय हृदय केन्द्रले आफ्नो तेइसौं वार्षिकोत्सवको सन्दर्भमा स्मारिका प्रकाशन गर्न गर्इरहेकोमा मलाई अत्यन्त खुशी लागेको छ । यो स्मारिकाले केन्द्रबाट उपलब्ध हुने सबै सेनाहरू, मुटुरोगका कारणहरू र यसबाट बच्ने उपायहरूको बारेमा जानकारी उपलब्ध गराउने विश्वास लिएको छु । देशको विद्यमान परिस्थिति एवं विभिन्न चुनौतीहरूका बावजुद केन्द्रमा कार्यरत सम्पूर्ण कर्मचारीहरूको अटुट मेहनत तथा प्रतिवद्धताले मात्र यो सफलता हासिल भएको हो भन्ने कुरामा मलाई पूर्ण विश्वास छ ।

हाल भेरी अञ्चल अस्पताल र जनकपुर अञ्चल अस्पतालमा समेत सेवा विस्तार भई कार्य सञ्चालन गरी मुटुरोगको उपचारको लागि स्वदेशमा नै उच्चस्तरीय एवं गुणस्तरीय सेवा उपलब्ध गराउने र उपचारका लागि विदेशमा जानुपर्ने बाध्यताबाट सबै नेपालीहरूलाई मुक्ति दिलाउन यस केन्द्रलाई सफलता मिलोस् भन्ने शुभकामना व्यक्त गर्दछु ।

अन्त्यमा, मुटुरोगको उपचार, निदान र रोकथाममा त्यस केन्द्रले खेलेको भूमिका उदाहरणीय छ । आगामी दिनमा मुटुरोग उपचारको क्षेत्रमा देशलाई आत्मनिर्भर बनाउने खालका सशक्त कार्यक्रमहरू विकास गर्दै अगाडि बढ्ने कार्यमा केन्द्रलाई सफलता मिलोस् भन्ने शुभकामनासहित एक्काइसौं वार्षिकोत्सव तथा स्मारिका प्रकाशनको सफलताको कामना समेत गर्दछु ।

-----  
डा. पुष्पा चौधरी  
सचिव



नेपाल सरकार

## स्वास्थ्य तथा जनसंख्या मन्त्रालय

फोन नं.  
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(.....शाखा)



प्राप्त पत्र संख्या :-  
पत्र संख्या :-  
चलानी नं. :-

रामशाहपथ,  
काठमाडौं, नेपाल ।

मिति : २०७५/१०/१०

**विषय :- शुभकामना**



नेपाल सरकारको राष्ट्रिय स्वास्थ्य नीति अनुरूप स्वदेशमा नै विशिष्ट स्वास्थ्य सेवाहरू क्रमशः उपलब्ध गराउँदै लैजाने उद्देश्य अनुसार हृदयरोगको निदान, उपचार तथा हृदयरोगीको पुनर्स्थापनाको लागि आवश्यक उच्चस्तरीय स्वास्थ्य सेवा सर्वसुलभ रूपमा उपलब्ध गराउने तथा हृदयरोग सम्बन्धी उच्चस्तरीय अध्ययन र अनुसन्धानका लागि आवश्यक दक्ष जनशक्ति तयार पार्ने गठन भएको शहीद गंगालाल राष्ट्रिय हृदय केन्द्रले आफ्नो उद्देश्य प्राप्तितर्फ खेलेको भूमिकाको म हार्दिक सन्नाहना गर्दछु ।

२३औं वार्षिकोत्सवको अवसरमा केन्द्रले आफ्ना गतिविधिहरूको जानकारी गराउने उद्देश्यले स्मारिका प्रकाशन गर्न लागेकोमा खुशी व्यक्त गर्दै मुटु रोगको उपचारमा विशिष्ट र गुणस्तरीय सेवा प्रदान गरी मुटु रोगीहरूलाई उपचारार्थ विदेशमा जानुपर्ने बाध्यताको अन्त्य गर्ने गरी विशिष्टीकृत राष्ट्रिय श्रोतको रूपमा स्थापित हुन सकोस् भन्ने शुभकामना व्यक्त गर्दछु । साथै, यहाँ कार्यरत सम्पूर्ण चिकित्सक एवं कर्मचारीहरूले गर्दै आएको योगदानको सराहना गर्दै आगामी दिनमा अझ उच्च प्रेरणा र मनोबलका साथ काम गरी केन्द्रको उत्तरोत्तर प्रगतीमा लागि रहनु हुनेछ भन्ने आशा एवं विश्वास राख्दै वार्षिक दिवसको उपलक्ष्यमा हार्दिक बधाई समेत ज्ञापन गर्न चाहन्छु ।

*Chandra Kumar Ghimire*

चन्द्र कुमार घिमिरे  
सचिव

## EDITORIAL

*We are delighted to present the 2018 edition of Annual Report, which highlights our achievement in patient care and our success in the last one year in the field of cardiovascular disease. Here at SGNHC, we implement and pioneer new advances and technologies to alleviate the outcome of patients living with heart disease.*

*It has been a busy and challenging year with remarkable wait lists for cardiac surgery and cardiac interventions. We have been successful in creating credible health policies and platforms to serve our community. Exciting work has taken place with recruitment, program expansion, research, and innovation to provide the very best cardiac facility in the nation.*

*None of this would be possible without the unfailing energy and commitment of doctors who drive the hospital and, nurses that shape it, staffs who inspire and felicitate our work.*

*Thank you for your continued belief in SGNHC. We want to earn your support, and we honor your trust. We are proud of what we have accomplished and excited about our next endeavor in cardiovascular disease.*

*Special thank to Nira Shrestha(Maharjan) for her Subhakamana poem.*

*We would like to express our sincere thanks to all our seniors, colleagues, friends for their support and contribution in the publication of Annual Report 2018.*

# ANNUAL REPORT 2018

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# शुभकामना

आँगनमा फलेका सुन्दर सयपत्री भै  
बिरामीको मुहारमा खुशी छर्नु तिमि  
प्रांगणको शीतल बगैचा भै  
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हर मुटुरोगीको रोजाई तिमि गंगालाल  
सम्झी तिमिलाई हृष्विभौर हुन्छ मन हरपल  
जटिल मुटुको एक मात्र तिमि गन्तव्य  
पीडा अनि जलनको गरिदिन्छौ अन्त्य

बालकदेखि वृद्धको आशाको किरण  
देशविदेशका मुटुरोगी पर्छन तिम्रै शरण  
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जगाइदिन्छौ तिमि पीडितको मनमा आशा

जन्मजातका मुटुरोगदेखि  
प्राँटका थाकेका मुटुसम्म  
गरीबको ऋपडीदेखि  
शहरको गगनचुम्बी महलसम्म  
विना कुनै भेदभाव अनि पुर्वाग्रह  
सेवाग्राहीको मन जित्न सफल तिमि

आफ्नो आँचलमा आएका  
सम्पूर्णको पीडा हर्नु तिमि  
मुटुभरिाँ शुभकामना तिमिलाई  
यो वार्षिकोत्सवमा  
उन्नतिको पथमा लम्कनु तिमि

शुभकामना ! शुभकामना !! शुभकामना !!!

# कार्यकारी निर्देशकको वार्षिक प्रतिवेदन



डा. ज्योतीन्द्र शर्मा  
कार्यकारी निर्देशक

स्थापनाकालदेखि छोटो समयमा नै हृदयरोगको निदान, उचार तथा रोकथामको क्षेत्रमा उल्लेखनीय योगदान पुऱ्याउन सफल यस शहीद गंगालाल राष्ट्रिय हृदय केन्द्रको तेइसौं वार्षिकोत्सवको अवसरमा कार्यकारी निर्देशकको हैसियतले वार्षिक प्रतिवेदन प्रस्तुत गर्न पाउँदा गौरवान्वित भएको छु ।

नेपालमा दिन प्रतिदिन वृद्धि हुँदै गइरहेको मुटुरोगको रोकथाम, निदान, उपचार तथा हृदयरोगीहरूको पुनर्स्थापनाको लागि आवश्यक उच्चस्तरीय स्वास्थ्य सेवा सर्वसुलभरूपमा स्वदेशमा नै प्रदान गरी हृदयरोगीहरूलाई मानवोचित जीवनयापन गर्न सक्षम तुल्याउन तथा हृदयरोगसम्बन्धी उच्चस्तरीय अध्ययन र अनुसन्धानका लागि आवश्यक दक्ष जनशक्ति तयार गर्ने मूल उद्देश्य लिई नेपाल सरकारले शहीद गंगालाल श्रेष्ठको नाममा समर्पित गरी यस केन्द्रको स्थापना गरेको हो । वि. सं. २०५२ सालमा का.म.न.पा. ३, बांसवारीमा स्थापित यस केन्द्रले ९ शैयाबाट आफ्नो सेवा सुरु गरेकोमा हाल २०० शैया क्षमतामा विस्तार भई संचालनमा रहेको छ । प्रारम्भमा मुटुरोगसम्बन्धी सामान्य उपचारबाट सेवा शुरु गरेको यस अस्पतालले समयको अन्तरालसँगै मुटुरोगसम्बन्धी विभिन्न किसिमको विशेषज्ञ उपचार सेवाहरू उपलब्ध गराउँदै आइरहेको छ । सिमित श्रोत र साधनबाट शुरु भएको यस केन्द्र हाल वैज्ञानिक प्रविधि, दक्ष जनशक्ति तथा अत्याधुनिक औजारले सुसज्जित राष्ट्रियस्तरको अस्पतालको रूपमा आफूलाई स्थापित गर्न सफल भएको छ । स्थापनाकालदेखिका संचालक समितिहरू, स्वास्थ्य मन्त्रालय, केन्द्रमा कार्यरत सम्पूर्ण कर्मचारीहरू, नेपाल सरकारका सरोकारवाला निकायहरूको निरन्तर मेहेनत र सहयोग एवं आमजनता तथा विरामीहरूको अटुट विश्वास र सद्भावका कारण यो केन्द्र आजको स्वरूपमा आइपुग्न सफल भएको हो ।

विगतका २३ वर्षमा केन्द्रले थुप्रै उपलब्धिहरू हासिल गरेको छ । वि.सं. २०५५ पौष १५ गते बहिरंग सेवा शुरु भएदेखि हालसम्म करिब १६ लाख ४५ हजार विरामीहरूको बहिरंग सेवामार्फत

स्वास्थ्य परिक्षण गरिएको छ । हालसम्म करिब ६५ हजार विरामीहरूको विभिन्नखालका Cath Procedures तथा करिब २२ हजार विरामीको मुटुको शल्यक्रियाहरू भएका छन् । गतवर्ष अर्थात् सन् २०१८ मा मात्र १,६४,५२८ जना विरामीहरूको बहिरंग सेवामार्फत स्वास्थ्य परीक्षण भएको छ । यही वर्ष Electrocardiogram (ECG): ७५,१७५ Echocardiogram: ६२,८९०, X-ray: ५७,४८८, TMT: १०,९७७, Fetal Echo: ८५९, Carotid Doppler: ६२० का साथै अन्य विभिन्नखाले Non-Invasive परीक्षणहरू उल्लेख्य संख्यामा भएका छन् । साथै ८६०८ Cath Procedures गरिएको छ जसमा Coronary Angiogram (CAG): ४५७७, Coronary Angioplasty (PTCA): १६७४, PTMC: ३४५, EPS/RFA: ३९९, Device closures: ३२५, Pacemaker: ७२१ प्रत्यारोपण गरिएको छ । त्यसै गरी गतवर्ष १८३७ वटा विभिन्न खालका मुटुको शल्यक्रिया सम्पन्न गरिएको छ । हालसम्म १६ हजारभन्दा बढी ओपन हार्ट सजरी केन्द्रमा सम्पन्न भइसकेको छ । केन्द्रमा सन् २०१७ मा भर्ना भई उपचार गराउने विरामीहरू (In-patient) को संख्या १२,३२३ रहेको छ । साथै यसै वर्ष देखि संचालनमा आएको CT Scan बाट १४६३ जना विरामीहरूलाई सेवा प्रदान गरिएको छ । हृदयघात भएर तुरुन्तै अस्पताल आइपुग्ने विरामीहरूलाई २४सै घण्टा Primary Angioplasty को सेवा केन्द्रले प्रदान गरिरहेको छ । साथै केन्द्रमा मुटुको चाल गडबडी भएका विरामीलाई अत्याधुनिक "3D Mapping" पद्धतिबाट उपचार तथा विशेष प्रकारको पेशमेकर (CRT/CRTD) प्रत्यारोपण सफलताका साथ गरिदैछ । मुटुको जन्मजात प्वाल भएका, भल्भ साँघुरो भएका विरामीलाई अप्रेसन नगरी Device Closure पद्धतिबाट गरिने सेवा प्रदान उल्लेखनीय संख्यामा वृद्धि भएको छ । सानो घाउ मात्र बनाएर गरिने शल्यक्रिया (Minimal Invasive Surgery) केन्द्रमा नियमित रूपमा भइरहेको छ । केन्द्रले प्रदान गर्ने सेवा गुणस्तरीय, भरपर्दो र प्रभावकारी बनाउनको लागि गत आ.व.मा अत्यावश्यक उपकरण एवं औजारहरू केन्द्रका विभिन्न विभागका माग अनुसार खरीद गरिएको छ । केन्द्रमा यसै आ.व.मा अत्याधुनिक

६४० स्लाइसको कार्डियाक सी.टी. स्क्यान मेशीन तथा क्याथ ल्याब मेशिन जडान गरिएको छ। नयाँ क्याथ ल्याब जडान भएपछि केन्द्रले ४ वटा क्याथ ल्याबबाट सेवा प्रदान गरिरहेको छ। त्यसैगरी अस्पताललाई पेपर लेस सिस्टममा अघि बढाउनको लागि यसै वर्षबाट Integrated Hospital System Software जडान गरी संचालनमा आएको छ। यस आधारमा विगतका वर्षहरूमा जस्तै यो वर्षमा पनि केन्द्रले आफ्नो काम कर्तव्य सन्तोषजनक रूपमा सम्पन्न गरेको छ।

मुटुरोगको उपचारमा नेपाल सरकारले अत्यन्तै महत्व दिएको छ। विगत केही वर्षदेखि नेपाल सरकारले १५ वर्षमूनिका बालबालिका तथा ७५ वर्षमाथिका जेष्ठ नागरीकहरूलाई यस केन्द्रमा निःशुल्क उपचार गर्ने व्यवस्थाको लागि बजेट प्रदान गरेको छ। चालु आर्थिक वर्षमा पनि सोही प्रयोजनको लागि नेपाल सरकारले रु. १३ करोड विनियोजन गरेको छ। साथै विना अप्रेशन मुटुको साँघुरिएको भल्भ खोल्ने प्रविधि (PTMC) को लागि रु. १ करोड ७५ लाख विनियोजन गरेको छ। बाथ मुटुरोगीहरूको संपूर्ण शल्यक्रिया निःशुल्क गर्ने कार्यक्रम संचालनको लागि चालु आ.व.मा नेपाल सरकारले १५ करोड ९० लाख विनियोजन गरेको छ। यसै आर्थिक वर्षमा विपन्न आकस्मिक उपचार को लागि रु. १ करोड विनियोजन गरिएको छ। समग्रमा नेपाल सरकारद्वारा घोषित सामाजिक सुरक्षा कार्यक्रम अन्तर्गत रु. ३१ करोड ६५ लाख चालु आ.व.को लागि विनियोजन गरिएको छ। यसका अतिरिक्त “विपन्न तथा असहाय” विरामीहरूको लागि गम्भीर प्रकृतिका मुटुरोगको उपचारार्थ प्रति विरामी रु. १ लाखसम्म अनुदान नेपाल सरकारले प्रदान गरेको छ। गत आर्थिक वर्षमा २२६१ जना विरामीको विपन्न कार्यक्रम अन्तर्गत उपचार वापत रु. २१ करोड ६३ लाख ३० हजार ६ सय ४३ रकम खर्च भएको छ। यी सबै कार्यक्रमहरू केन्द्रद्वारा अत्यन्तै प्रभावकारी ढंगले कार्यान्वयन गरिरहेको छ। यसका साथै केन्द्रको आन्तरिक स्रोतबाट गरीब असहाय विरामीहरूको लागि रु. ४ करोड १७ लाख ८१ हजार ६४१ को च्यारिटी प्रदान गरिएको छ। माथि उल्लेखित सरकारी राहत कार्यक्रमहरूका अतिरिक्त जयन्ती मेमोरियल ट्रस्ट, नेपाल हृदयरोग निवारण प्रतिष्ठान केन्द्रिय कार्यालय, नेपाल हृदयरोग निवारण प्रतिष्ठान ललितपुर शाखा, भगवती देवी सैंजु अक्षय कोष, गोर्दा इको हिमाल च्यारिटी फार्मसी, सिता-केदार चालिसे ट्रस्ट, याक एण्ड यति रेष्टुरेन्ट भियना, श्री सत्य साई केन्द्र, श्रीमती मिरा सिंह (स्व. अर्जुन बहादुर सिंहको सम्भनामा), Milal Heart Foundation Nepal, मृगेन्द्र सम्भना गुठी, संकल्प नेपाल, लगायतका

विभिन्न सहयोगी संघ संस्था तथा व्यक्तिहरूले पनि गरीब तथा असहाय विरामीको उपचारमा यथासक्दो आर्थिक तथा भौतिक सहयोग गरिरहेका छन्।

मुटुरोग उपचार महंगो हुनुकासाथै जटिल छ। मुटुरोगको उपचारका साथै रोकथाममा पनि यस केन्द्रले उल्लेखनीय भूमिका खेल्दै आएको छ। मुटुरोग रोकथाममा समयमै ध्यान दिएमा यो सस्तो र प्रभावकारी हुनसक्छ। त्यसैले यो केन्द्र मुटुरोगीहरूको उपचारमा रातोदिन तल्लिन भएर पनि मुटुरोगको रोकथाम र यससम्बन्धी जनचेतना अभिवृद्धि गर्ने कार्यमा पनि निरन्तर लागि परेको कुरा जानकारी गराउन चाहन्छु।

केन्द्रले विगतका वर्षहरूमा भै गत आर्थिक वर्षमा पनि देशका विभिन्न जिल्लाका १३ स्थानहरू (काठमाण्डौं, म्याग्दी, सिरहा, कैलाली, डोटी, नवलपरासी, चितवन, कास्की, इलाम, बागलुङ-२, सिमरा तथा दाङ) मा विशेषज्ञ चिकित्सकहरूको टोलीले निःशुल्क मुटुरोग स्वास्थ्य शिविरहरू संचालन गरेकोमा ती शिविरहरूबाट ६,२८३ जना विरामीहरूले प्रत्यक्षरूपमा सेवा लिएका थिए। जसमध्ये २,६३४ जनाको इसिजि र २,६५७ जनाको इकोकार्डियोग्राम गरिएको थियो। यी कार्यक्रमको लाभ र प्रभावकारिताको जनस्तरबाट निकै प्रशंसा बढुल्न केन्द्र सफल भएको छ। यस्तो कार्यलाई आगामी दिनमा पनि केन्द्रले प्राथमिकताकासाथ निरन्तरता दिनेछ।

केन्द्रलाई आत्मनिर्भर बनाउन जनशक्ति तथा प्रविधिको विकास र विस्तारमा केन्द्र गम्भीर भएर लागेको छ। विभिन्न शिक्षण तथा तालीमसम्बन्धी कार्यक्रमहरू केन्द्रमा शुरू भइसकेका छन्। चिकित्सा विज्ञान राष्ट्रिय प्रतिष्ठान (NAMS) संग सहकार्य गरी मुटुरोगको क्षेत्रमा उच्च शिक्षाको अध्यापन जारी छ। केन्द्रका विशेषज्ञहरूलाई तालिमको लागि विदेशका उत्कृष्ट संस्थामा पठाउने तथा यूरोप, अमेरीकाका विशेषज्ञहरूलाई केन्द्रमा बोलाएर तालीम उपलब्ध गराउने प्रकृया सुचारु छ। साथै मुटु उपचारलाई विकेन्द्रीकरण गर्नुपर्छ भन्ने केन्द्रको मान्यता अनुरूप विभिन्न सरकारी तथा निजी अस्पतालका चिकित्सक, नर्स तथा परप्युजनका कर्मचारीलाई तालीम प्रदान गरेको छ। केन्द्रमा यति धेरै गुणस्तरीय काम हुँदा हुँदै पनि एकेडेमिक प्रतिष्ठान नभएको कारणले देशको आवश्यकता अनुसारको जनशक्ति उत्पादन तथा शैक्षिक कार्यक्रम संचालन गर्न सकिएको छैन। केन्द्रको संचालक समितिबाट पारित भई यससम्बन्धी व्यवस्था हुन स्वास्थ्य मन्त्रालयमा पठाइ सकिएतापनि देशमा विद्यमान

विभिन्न कारणवश यो पूरा हुन सकेको छैन । उपत्यका बाहिर केन्द्रको सेवा विस्तार गरी मुटुसम्बन्धी गुणस्तरीय सेवा प्रदान गर्ने उद्देश्यले नेपालगञ्जको भेरी अञ्चल अस्पतालसँग सम्झौता गरी उक्त अस्पतालका चिकित्सक, नर्स तथा अन्य प्यारामेडिकस जनशक्तिलाई तालिम प्रदान गर्नुका साथै उक्त अस्पतालको लागि अत्याधुनिक Cath-Lab Machine नेपाल सरकारको सहयोगमा केन्द्रले खरीद गरी जडान गरिएको छ । नेपालगञ्जमा तत् पश्चात अत्यन्तै प्रभावकारी ढंगले क्याथ ल्याब सेवा प्रदान गरिरहेको छ । जनकपुरमा नेपाल सरकारको सहयोगमा केन्द्रको शाखा विस्तार गरिएको छ । जनकपुर अञ्चल अस्पतालको हाता भित्र केन्द्रको आफ्नै भवन निर्माण गरी हृदयरोग सम्बन्धी सेवा शुरु गरिएको छ । भविष्यमा सेवा बढाउँदै लगेर क्याथ ल्याब तथा मुटुको शल्यक्रिया शुरु गर्ने लक्ष्य केन्द्रले राखेको छ । यी दुई स्थानबाहेक प्रत्येक प्रदेशमा नेपाल सरकारको सहयोगबाट केन्द्रले कम्तीमा एक शाखा विस्तार गर्ने लक्ष्य लिएको छ ।

आर्थिक अनुशासन तथा आर्थिक कारोबारमा पारदर्शिता केन्द्रको नैतिक बल हो । यस केन्द्रका सम्पूर्ण खरीद प्रक्रिया अनलाईन (इ-टेण्डर) मार्फत सफलतापूर्वक गरिँदै आएको छ । विगत आर्थिक वर्षहरूमा जस्तै आ.व. २०७३/०७४ को लेखा परीक्षणमा केन्द्रको बेरुजु शुन्य रहेको छ ।

यस केन्द्रले विगतका २२ वर्षमा आफूलाई अग्रणी संस्थाको रूपमा स्थापित गर्न सकेतापनि विभिन्न चुनौतीहरू विद्यमान छन् । केन्द्र अत्यन्त व्यस्त हुँदा तथा दक्ष जनशक्तिको अभावका कारण यसका सेवाहरूलाई देशका अन्य भागमा सोचे जस्तो विस्तारित तथा विकेन्द्रित गर्न सकिएको छैन । केन्द्रलाई प्रतिष्ठानको रूपमा परिणत गर्न सके यो समस्याको हल गर्न सकिने देखिन्छ । साथै केन्द्रको विद्यमान सेवा सुविधाको गुणस्तर लाई कायम राख्दै समयानुकूल स्तरोन्नति गर्नु अर्को मुख्य चुनौति हो । केन्द्रमा आर्थिकरूपले सम्पन्न विरामीलाई आकर्षण गर्नको लागि केन्द्रमा अतिरिक्त समयमा संचालित Paying Clinic लाई अझ प्रभावकारी र व्यवस्थित बनाउनु पर्नेछ । निर्माणाधीन ओपिडी भवनमा Paying Clinic को लागि बेग्लै स्थानको व्यवस्था गरिएको छ । यसले Paying Clinic को सेवा अझ सरल र प्रभावकारी बनाउन सकिन्छ, भन्ने केन्द्रको धारणा रहेको छ । हाल संचालन भइरहेको Paying Clinic बाट अस्पताललाई वार्षिक करीब ८ करोड थप आमदानी भइरहेको छ । यसले केन्द्रलाई आत्मनिर्भर बनाउन थप मद्दत पुगेको छ । विरामीको चाप दिनानुदिन बढिरहेको

अवस्थामा बहिरंग सेवा तथा इमर्जेन्सी सेवा प्रवाह गर्ने स्थानको कमी भएकोले केन्द्रमा अत्याधुनिक सुविधायुक्त नयाँ बहिरंग सेवा तथा इमर्जेन्सी भवन निर्माण विगत वर्षहरू शुरु गरिएकोमा हाल ९० प्रतिशत कार्य सम्पन्न भइसकेको छ । निर्धारित समय अगावै भवन निर्माण सम्पन्न हुने आश्वासन निर्माण व्यवसायी तथा भवन विभागबाट केन्द्रलाई प्राप्त भएको छ । भवन निर्माण सम्पन्न नहुँदासम्मका लागि बहिरंग तथा आकस्मिक सेवा प्रदान गर्ने स्थानको केही हदसम्म अप्ठेरो परिरहेको छ ।

कार्यकारी निर्देशकको हैसियतमा चार वर्षे कार्यकालको यो मेरो अन्तिम वर्ष हो । यस अवधिमा सम्पन्न भएका केन्द्रको विकास, प्रभावकारी सेवा प्रवाह तथा सेवा विस्तारका साथै कर्मचारीका हक हितमा भएका केही प्रमुख कार्यहरू यहाँ पेश गर्न चाहन्छु ।

१. कर्मचारीको सेवा सुविधा सम्बन्धी गरिएका कार्यहरू :

- क. केन्द्रका तालिम प्राप्त जनशक्तिलाई केन्द्रमै राख्न तलबभत्ता पुनरावलीकन गरिएको ।
- ख. कर्मचारीहरूको सेवाका शर्त र सुविधा सम्बन्धी नियमावलीमा समय सापेक्ष सुधार तथा संशोधन गरिएको ।
- ग. आवास गृह निर्देशिका संशोधन गरिएको ।
- घ. आर्थिक प्रशासन नियमावली संशोधन गरिएको ।
- ङ. कर्मचारीको जीवन बीमा गरिएको ।
- च. केन्द्रको सेवा विस्तारको लागि दरबन्दी थप गरिएको ।
- छ. आवास गृह मर्मत संभार गरिएको ।
- ज. केन्द्रका कर्मचारीलाई स्वदेश तथा विदेशमा तालिम/अध्ययनको लागि पठाइएको ।

२. विरामीको लागि सेवा प्रवाह सस्तो तथा प्रभावकारी बनाउन गरिएका कार्यहरू :

- क. केन्द्रमा उपलब्ध मुटुमा प्रत्यारोपण गरिने Stent, Pacemaker, Device लगायत विभिन्न सामानको मूल्य घटाउन तथा नियन्त्रण गर्न विशेष कदम चालिएकोले ती सामानहरूको मूल्य उल्लेख्य रूपमा घटेको कारणले विरामीलाई प्रत्यक्ष राहत पुगेको ।
- ख. बाथ मुटुरोगीहरूलाई भल्भ प्रत्यारोपण लगायतका सम्पूर्ण सेवा निःशुल्क शुरु गरिएको ।
- ग. गरीब असहाय विरामीको लागि

आकस्मिक सेवा निःशुल्क गर्नको लागि बजेट व्यवस्थापन गरिएको ।

- घ. केन्द्रत क्यास काउन्टर शुरु गरिएको ।
- ङ. केन्द्रमा सेवा लिन आएका सम्पूर्ण विरामीलाई सेवा उपलब्ध गराउन थप व्यवस्था गरिएको ।
- च. सेवा शुल्क पुनरावलोकन गरिएको ।
- छ. टेलिफोन सेवा थप व्यवस्थित गरिएको ।
- ज. ओपिडीमा टोकन प्रणालीबाट टिकट वितरण शुरु गरिएको ।

३. केन्द्रको पूर्वाधार विकासका लागि गरिएका कार्यहरू :

- क. अत्याधुनिक इमर्जेन्सी तथा ओपिडी भवनको निर्माण कार्य शुरु गरी ९० प्रतिशत काम सम्पन्न भइसकेको ।
- ख. नयाँ भवन निर्माण नहुन्जेलको लागि प्रिफ्याब ओपिडी तथा नयाँ Toilet को निर्माण गरिएको ।
- ग. सहायता कक्ष (सूचना केन्द्र) निर्माण गरिएको।
- घ. नयाँ वार्डहरूको संचालन गरिएको ।
- ङ. भविष्यमा अस्पताललाई Paperless बनाउनको लागि केन्द्रमा Integrated Software System जडान गरी सम्पूर्ण रूपले Computerized Reporting System शुरु गरिएको ।
- च. फोहोर व्यवस्थापनको लागि चाहिने पूर्वाधार तथा Water Purification Plant Installation ।
- छ. केन्द्रको सुरक्षालाई प्रभावकारी बनाउन CCTV जडान गरिएको ।
- ज. केन्द्रको अन्तरंग भवनको चौथो तल्ला निर्माण सम्पन्न गरी ओटी / आइसियू संचालन गरिएको ।
- झ. केन्द्रका भवनहरूको मर्मत संभार तथा रंगरोगन गरिएको ।
- ञ. केन्द्रमा अप्रेसन थियटर, आकस्मिक कक्ष, ओपिडी, ल्याब लगायत विभिन्न ठाँउहरूमा आवश्यक उपकरणहरू खरीद गरिएको ।

ट. मुलुककै सबैभन्दा उच्च प्रविधिको एक मात्र अत्याधुनिक ६४० स्लाइसको CT Scan जडान गरी सेवा संचालन गरिएको । देशभरिभै सबैभन्दा सस्तो दरमा सेवा उपलब्ध गराइएको ।

ठ. नयाँ Cath-Lab Machine जडान गरी सेवा संचालन गरिएको ।

४. विकेन्द्रीकरण तथा सेवा विस्तारका लागि गरिएका कार्यहरू :

- क. जनकपुर अञ्चल अस्पताल हाताभित्र केन्द्रको शाखा शुरु गरिएको ।
- ख. नेपालगंजको भेरी अञ्चल अस्पतालमा क्याथ ल्याब जडान गरी केन्द्रको प्राविधिक सहयोगमा सेवा शुरु गरिएको ।
- ग. विभिन्न अस्पताल तथा स्वास्थ्य संस्थाका कर्मचारीलाई आवश्यक तालिम प्रदान गरिएको ।

अन्त्यमा, केन्द्रको विकास, विस्तार तथा स्थायीत्वको लागि निरन्तर लागि रहनु भएका केन्द्रमा कार्यरत सम्पूर्ण कर्मचारीहरू, स्वास्थ्य मन्त्रालय, नेपाल सरकारका सरोकारवाला निकायहरू, केन्द्रका वर्तमान एवं पूर्व संचालक समितिका सदस्यज्यूहरू, पूर्व कार्यकारी निर्देशकज्यूहरू, रक्तदाताहरू, चन्दादाताहरू, गैर-सरकारी संस्थाका प्रतिनिधिहरू, पत्रकारहरू, विरामी तथा उहाँहरूका आफन्तहरू एवं सम्पूर्ण शुभेच्छुक जनमानसमा हार्दिक धन्यवाद व्यक्त गर्न चाहन्छु ।

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डा. ज्योतीन्द्र शर्मा  
कार्यकारी निर्देशक  
२०७५ माघ १५ गते ।

## आ.व. २०७४/०७५ को वार्षिक कार्यक्रमको प्रगती तथा आय व्यय विवरण

मनोज कु.विष्ट, नरेश चिपालु, निरू दाहाल, विवेक थापा,  
संजय महर्जन, मिलन के.सी., बिन्दु खनाल, सुशिल भुपाल

यस केन्द्रले आ.व. २०७४/७५ मा मुख्य ८ वटा कार्यक्रम संचालन गर्ने लक्ष्य राखिएको र सो कार्यक्रम संचालनका लागि नेपाल सरकारको तर्फबाट ६१ करोड ६ लाख ९१ हजार, स्वास्थ्य करकोषको तर्फबाट २ करोड र आन्तरिक श्रोतबाट ९५ करोड ३४ लाख व्यहोर्ने गरी कुल रकम १ अरब ५८ करोड ४० लाख ९१ हजार बजेटको व्यवस्था गरिएकोमा यस आर्थिक वर्षमा पुंजगत तथा चालु गरी मुख्य ८ वटा कार्यक्रम सम्पन्न भै १ अरब ५१ करोड ५४ लाख ९४ हजार खर्च भै उक्त रकमबाट उल्लेखित कार्यक्रमहरू संचालन भएको छ ।

### १. मुटुरोगीहरूको परीक्षण सेवा:

यस आ.व.२०७४/७५ मा जम्मा कुल १००,००० जना विरामीहरूलाई बहिरंग सेवा मार्फत सेवा पुऱ्याउने लक्ष्य राखेकोमा १६०,९४२ जना विरामीहरूको बहिरंग सेवा मार्फत मूट्रको परीक्षण गरिएको छ । यसरी वार्षिक लक्ष्यको आधारमा १६०.९४ छ भौतिक प्रगति देखिएको छ ।

### २. मुट्रको शल्यक्रिया सेवा:

आ.व.२०७४/७५ मा जम्मा १४०० जना विरामीको मूट्रको शल्यक्रिया गर्ने कार्यक्रम राखिएकोमा १८५६ जना विरामीहरूको विभिन्न खाले मूट्रको शल्यक्रिया गरिएको छ । यसरी वार्षिक लक्ष्यको आधारमा १३२.५७ छ प्रतिशत भौतिक प्रगति देखिएको छ ।

### ३. एन्जियोग्राफी/प्लाष्टी परीक्षण सेवा:

आ.व.२०७४/७५ मा क्याथल्याव सेवा मार्फत जम्मा ६९१२ जना विरामीहरूको एन्जियोग्राफी/प्लाष्टी लगायतका विभिन्न रोगहरूको परीक्षण तथा निदान गरिएको छ ।

### ४. प्रतिकारात्मक सेवा :

आ.व.२०७४/७५ मा यस केन्द्रले मुख्य मुख्य १२ स्थानमा मूट्ररोगसम्बन्धी शिविर संचालन गर्ने लक्ष्य राखेकोमा देशको विभिन्न १३ स्थानमा मूट्ररोगसम्बन्धी निःशुल्क स्वास्थ्य शिविर संचालन गरी जम्मा ६२८३ जना विरामीको स्वास्थ्य

परिक्षण गरिएको थियो जसमध्ये इसीजी गर्ने विरामी २६३४ तथा इको गर्ने विरामीको सख्या २६५७ रहेको छ । जसमध्ये..

- दरबारमार्ग, काठमाडौंमा निःशुल्क स्वास्थ्य शिविर संचालन गरि १४४ जना विरामीको स्वास्थ्य परिक्षण गरिएको ।

- तातोपानी, म्याग्दीमा निःशुल्क स्वास्थ्य शिविर संचालन गरि ३९९ जना विरामीको स्वास्थ्य परिक्षण गरिएको ।

- लहान, सिराहामा निःशुल्क स्वास्थ्य शिविर संचालन गरि ३५० जना विरामीको स्वास्थ्य परिक्षण गरिएको ।

- धनगढी, कैलालीमा निःशुल्क स्वास्थ्य शिविर संचालन गरि ९४६ जना विरामीको स्वास्थ्य परिक्षण गरिएको ।

- देवचुली, नवलपरासीमा निःशुल्क स्वास्थ्य शिविर संचालन गरि ५५६ जना विरामीको स्वास्थ्य परिक्षण गरिएको ।

- माडी, चितवनमा निःशुल्क स्वास्थ्य शिविर संचालन गरि ३०० जना विरामीको स्वास्थ्य परिक्षण गरिएको ।

- भिरचोक, कास्कीमा निःशुल्क स्वास्थ्य शिविर संचालन गरि २०० जना विरामीको स्वास्थ्य परिक्षण गरिएको ।

- इलाम बजार, इलाममा निःशुल्क स्वास्थ्य शिविर संचालन गरि ११०० जना विरामीको स्वास्थ्य परिक्षण गरिएको ।

### ५. बाथ मूट्ररोग राहत कार्यक्रम:

आ.व. २०७४/७५ मा नेपाल सरकार द्वारा बाथ मूट्ररोगीहरूको मूट्रको भल्भ लगायतका शल्यक्रियाको निःशुल्क उपचार गर्ने घोषित राहत कार्यक्रम अन्तर्गत ८०१ जना बाथ मूट्ररोगीहरूको निःशुल्क शल्यक्रिया गरिएको छ ।

६. १५ वर्षमुनीका तथा ७५ वर्षमाथिका विरामीहरूको निःशुल्क स्वास्थ्य सेवा कार्यक्रम:

आ.व. २०७४/७५ मा नेपाल सरकारद्वारा शुल्क तिर्न नसक्ने १५ वर्षमुनीका तथा ७५ वर्ष माथिका मूट्रका गरिब विरामीहरूका लागि घोषित राहत कार्यक्रम अनुसार १५ वर्षमुनीका ६०० जना र ७५ वर्षमाथिका ३०० जनाको शल्यक्रिया तथा उपचार गर्ने लक्ष्य राखिएकोमा १५ वर्षमुनीका ८६९ जना गरिब विरामीहरूको विभिन्न किसिमका शल्यक्रियाहरू सम्पन्न गरिएको छ भने ७५ वर्षमाथिका ५४४ जना गरिब विरामीहरूको विभिन्न किसिमका मूट्र रोगका उपचार गरिएको छ । यसरी वार्षिक लक्ष्यको आधारमा क्रमशः १४५ प्रतिशत र १८१ प्रतिशत भौतिक प्रगति देखिएको छ ।

बहिरङ्ग सेवा संचालनका लागि आवश्यक उपकरणहरूको व्यवस्था गरिएको ।

• केन्द्रको लागि आवश्यक उपकरणहरूको व्यवस्था गरिएको ।

### निष्कर्ष:

यस केन्द्रले चालु आ.व. २०७४/७५ को वार्षिक कार्यक्रम संचालनका लागि मुख्य गरी ८ वटा कार्यक्रम तय गरी सोही बमोजिम बजेटको व्यवस्था गरेकोमा वार्षिक लक्ष्यको आधारमा १०० प्रतिशत भौतिक प्रगति देखिएको छ भने वित्तीयतर्फ वार्षिक लक्ष्यको आधारमा ९५.६७ प्रतिशत प्रगति देखिएको छ ।

७. पि.टी.एम.सी. (मूट्रको भल्भ सांघुरिएको) गर्ने विरामीहरूको निःशुल्क स्वास्थ्य सेवा कार्यक्रम:

आ.व. २०७४/७५ मा नेपाल सरकार द्वारा शुल्क तिर्न नसक्ने मुटुको भल्भ सांघुरिएको विरामीहरूको उपचारका लागि घोषित राहत कार्यक्रम अनुसार ३०० जनाको उपचार गर्ने लक्ष्य राखिएकोमा ४०९ जना गरिब विरामीहरूको मुटुको भल्भ सांघुरिएको पि.टी.एम.सी. पद्धतिद्वारा उपचार गरिएको छ । यसरी वार्षिक लक्ष्यको आधारमा १३६ प्रतिशत भौतिक प्रगति भएको देखिन्छ ।

८. पुर्वाधार निर्माण तथा विकास कार्यक्रम:

आ.व. २०७४/७५ निम्न उल्लेखित पुर्वाधार विकास तथा निर्माणका कार्यक्रम राखिएको छ ।

• नया बहिरंग सेवा भवन निर्माण ९० प्रतिशत कार्य सम्पन्न ।

• अत्याधुनिक Cardiac CT scan Machine बाट उपचार सेवा शुरू ।

• भेरी अंचल अस्पतालमा क्याथल्याव उपकरण जडान भैसकेको र क्याथल्याव सेवा विस्तार ।

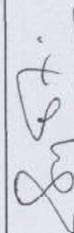
• नयां Cathlab Machine खरीद गरी जडान गरिएको ।

• केन्द्रको जनकपूर शाखा मुटु अस्पताल भवन निर्माण सम्पन्न ।

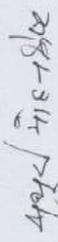
• केन्द्रको जनकपूर शाखा मुटु अस्पताल

शहिद गंगालाल राष्ट्रिय हृदय केन्द्र  
बांसबारी, काठमाडौं  
आय-व्यय विवरण  
आ.व. २०७४/७५

| आय विवरण                             | अनुसूची | रकम              | व्यय विवरण                        | अनुसूची | रकम              | रकम              |
|--------------------------------------|---------|------------------|-----------------------------------|---------|------------------|------------------|
| गत वर्षको जिम्मेवारी                 | १       | २,११२,९१४,०६०।३२ | जम्मा बजेट खर्चः                  | ८       | १,६७४,१०७,४२५।२७ | १,६७४,१०७,४२५।२७ |
| नेपाल सरकारबाट प्राप्त अनुदान        |         | ६६०,५००,०००।००   | चालु वर्षको बजेट खर्च             |         | ३२९,१७४,७७९।८१   |                  |
| स्वास्थ्य करकोषबाट प्राप्त अनुदान    |         | २०,०००,०००।००    | गत वर्षको बजेट खर्च               |         |                  |                  |
| नेपाल सरकारबाट प्राप्त अनुदान/जनकपुर |         | ३०,०००,०००।००    | नविल ढेक (धरौटी)                  |         |                  |                  |
| आन्तरिक श्रोत आम्दानी                | ४       | १,१८८,८८१,६६६।०० | धरौटी खर्च                        | २       | २१,९५०,७५७।००    | २१,९५०,७५७।००    |
| रिटिन्सन तथा धरौटी                   | २       | २६,३६५,५७७।००    | सेवामा धरौटी (टेलिफोन/खानेपानी)   | २       | ४,४१४,८२०।००     | ४,४१४,८२०।००     |
| व्याज आम्दानी                        | ३       | १,२१,११८,३७९।९८  | च्यारिटी तथा मिनाह खर्च           | ७       | १७९,०००।००       | १७९,०००।००       |
| धरौटी (टेलिफोन/खानेपानी)             | ५       | १७९,०००।००       | पेशिक बाँकी (प्रतिपत्र तथा अन्य)  | ९       | ४२,७५४,९६८।००    | ४२,७५४,९६८।००    |
| दायित्व                              |         | ९,२,९५५।००       | जम्मा लिनु पर्ने:                 | १०      | ५४,८२७,७९८।००    | ५४,८२७,७९८।००    |
|                                      |         |                  | बैंक मौज्जात                      | ११      | १,८६,८८६,८४२।९९  | १,८६,८८६,८४२।९९  |
|                                      |         |                  | जनकपुर अस्पताल खर्च               |         | १२,३०६,१५५।००    | १२,३०६,१५५।००    |
|                                      |         |                  | नगद तथा मार्गस्थल मौज्जात         |         | १५,४,३३६,७२६।९२  | १५,४,३३६,७२६।९२  |
|                                      |         |                  | फिज रकम फिर्ता                    |         | ११,७५,३३०,६४३।०० | ११,७५,३३०,६४३।०० |
|                                      |         |                  | गरीब विपन्न राहत खर्च             |         | १७६,११०,१०५।००   | १७६,११०,१०५।००   |
|                                      |         |                  | गरीब विपन्न राहत सोधभर्ना प्राप्त |         |                  |                  |
| जम्मा                                | जम्मा   | ४,१६०,०५१,६३८।३० | जम्मा                             | जम्मा   |                  | ४,१६०,०५१,६३८।३० |

  
(डा. ज्योतीन्द्र शर्मा)  
कार्यकारी निर्देशक

  
(मनोज कुमार बन्धारी)  
आर्थिक प्रशासनी प्रमुख

  
(मनोज कुमार बन्धारी)  
लेखा परिक्षक  
Registered Auditor  
Chartered Accountant No. १५७९



## DEPARTMENT OF CARDIOVASCULAR SURGERY

P 4P ffi Thv W Tff

SGNHC has long been recognized as an ideal platform that has shaped the face of cardiac surgery in the country. It has given rejuvenated attention to launch various credible health policies and platforms, and changed lives of thousands of people in need. We can be proud of what we have achieved together in the last years, and we are determined to expand the boundaries of scientific innovation, quality services and dissemination.

SGNHC continues to deliver the very best care to the patients and families it serves. Over the last twelve months, a number of milestones have been reached. The scope and quality of surgical care provided has continued to increase. And our work is validated each time one patient's life is improved. 2017-2018 has been another successful year, marked by highest number of cardiac cases being done till date; the

department conducted 1826 surgeries this year. We still witness the increase flow of patients with coronary heart disease over the past few years, and the number of CABG is on the rise and accounts to 386 surgeries, another significant milestone. Our experience has expanded as we have been successfully operating more frail cases, and complexity of cases has also increased in past several years. This year valvular heart surgeries accounted for the largest volume of procedures performed at our centre. Thanks to the rheumatic heart valve scheme introduced to us last fiscal year, owing to which we have been providing free valve surgeries for patients with rheumatic heart disease, and we have achieved new heights in serving the community. We are proud to work alongside and perform total of 717 valve operations through this scheme last year. There was also a slight rise in

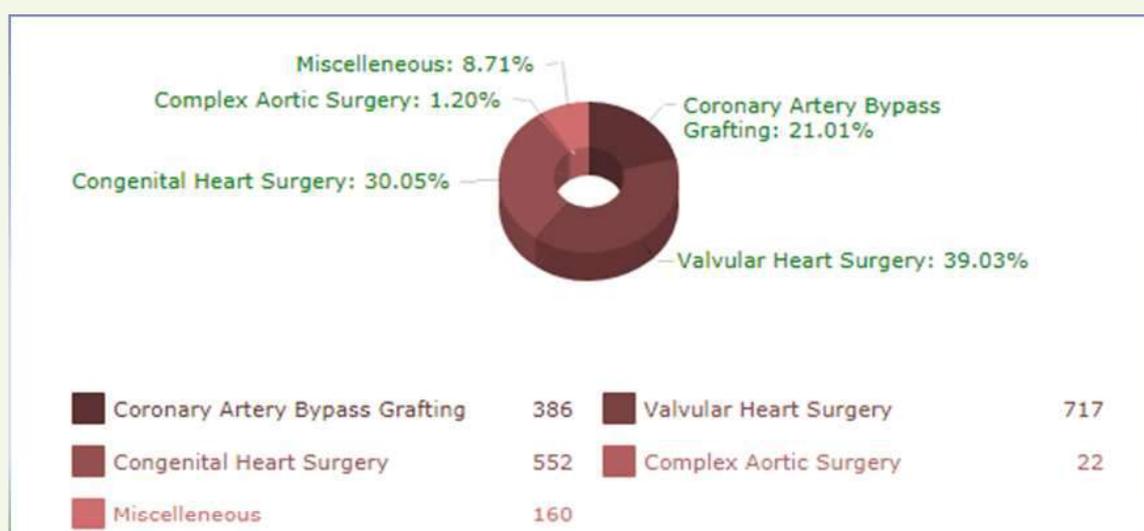
the congenital heart surgeries performed this year. We had 552 congenital heart surgeries. There were total of 22 operations for aortic dissection, and 160 miscellaneous procedures.

SGNHC is in continuing quest of designing and building modern, cost-effective and sustainable cardiac facility to people of the entire country and further. SGNHC has focused on developing strong research and development capabilities and keeping a close eye on recent advancement, and new technology trends. Hence, we had some participation in the international conferences and training workshops. Dr. Jyotindra Sharma and Dr. Sidhartha Pradhan attended mitral repair workshop, September in Bangkok, Thailand. Dr. Raamesh Koirala attended workshop for mitral repair, December in Bangkok, Thailand. Dr. Sidhartha Pradhan and Dr. Navin Chandra Gautam attended Workshop on aortic surgery at SIMS Hospital, Chennai. Dr. Sidhartha Pradhan and Dr. Dikshya Joshi presented paper at the 'Tianjin Chest Hospital Academic Conference and International Symposium 2018' at Tianjin, China. Dr. Dikshya Joshi presented paper at '24th

International Conference on Cardiovascular and Thoracic', Osaka, Japan. Dr. Nirmal Panthee and Dr. Avas J. Karki attended the IACTS at Visakhapatnam, India. Dr. Navin Chandra Gautam presented papers at Kunming and Beijing Cardiac Conferences. Dr. Nirmal Panthee went for short-term fellowship program at Seoul National University Children's Hospital, Seoul, South Korea.

Our focus and determination are as powerful as they have been at any time in our proud history. There exist unbounded opportunities and enormous vicinity for us to expand. We will keep on pushing the boundaries while committing to new levels of accountability and performance. We must always be prepared and have the tools and resources required facing the next best technology and innovative cure for our patients' benefit. We owe it to future patients who are depending upon us. We have to join hands together and stand with a singular objective that is to improve our patients' quality of life.

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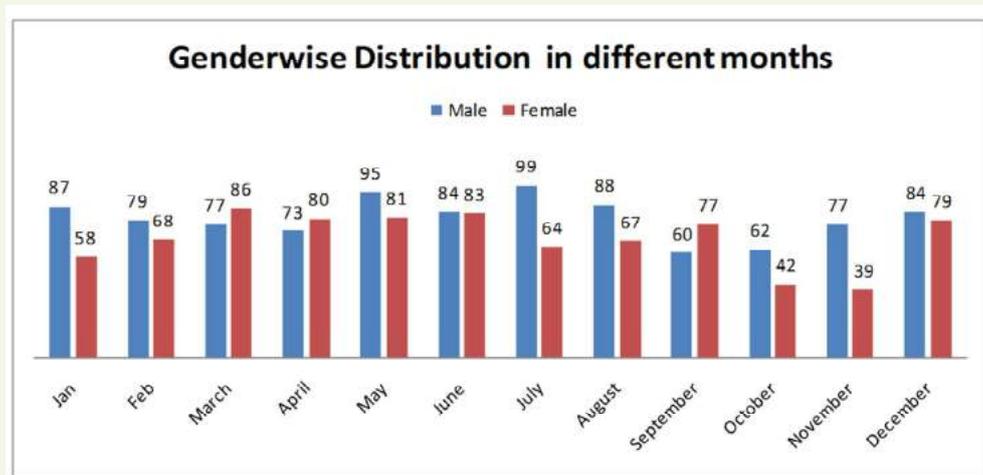


## DEPARTMENT OF ANESTHESIOLOGY

Dr. Jeju Nath Pokharel, Dr. Ashish Govinda Amatya, Dr. Battu Kumar Shrestha,  
Dr. Smriti Mahaju Bajracharya, Dr. Santosh Parajuli, Dr. Santosh Khatri, Dr. Parbesh Kumar Gyawali,  
Dr. Rabin Vaidhya Dr. Sandip Bhandari Dr. Bijeeta Khadka

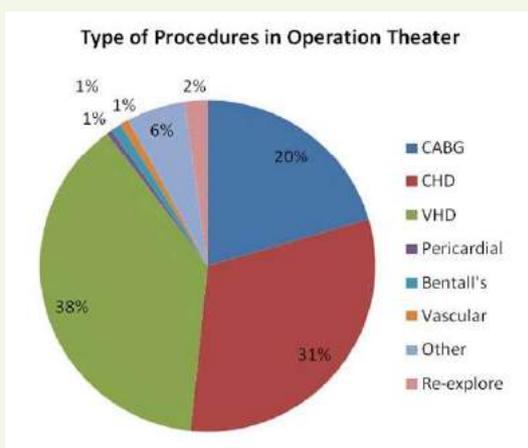
Cardiac anesthesiology at the Shahid Gangalal National Heart Center provides perioperative cardiovascular care including Pre-operative assessment and preparation of all patients prior to surgery, intraoperative management of patients undergoing complex operations, which encompasses

the use of invasive monitoring techniques, advanced hemodynamic management, reading and interpreting intraoperative transesophageal echocardiograms, post-surgical intensive care management and the control of postoperative pain. The department also provide anesthesia services



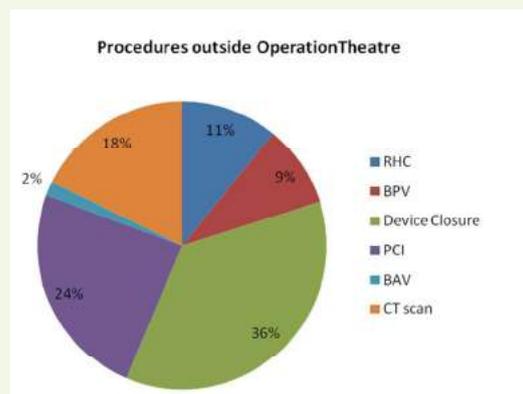
in the cath lab and respiratory care support to the mechanically ventilated patients in the coronary care unit and medical intensive care unit. Beside this the department actively takes part in ongoing educational and research program and conduct various CME.

In the year 2018, 2302 patients required anesthesia service. Among those 1789 patient were from Operation Theater, 92 patient from CT-scan and 421 patients from cath lab. According to the type of procedure in Operation Theater, maximum number of procedure was open heart procedures which included surgeries for valvular heart diseases, surgery for repair of congenital heart lesions followed by coronary artery bypass surgery. Other surgery includes vascular surgery, pericardial surgery, cardiac tumors and others.



Outside operation theatre, 513 patients required anesthesia service. Among them sedation for CT-scan was done in 92 patients, right heart catheterization for cyanotic and acyanotic congenital heart diseases were 56, Balloon Pulmonary Valvotomy (BPV) and Balloon Aortic Valvotomy (BAV) 52, device closure for ASD, VSD and PDA were 187 and percutaneous coronary intervention PCI were 126.

We have also started CRRT services and have performed few bedside percutaneous tracheostomy in this year.



## ACADEMIC ACTIVITIES

The goal of our department is to ensure quality care for the patient in the hospital, critical care, cath lab and develop the subspecialty training in cardiac anesthesia by fostering the research activities.

We successfully conducted cardiac anesthesia session in the conference of Cardiac Society of Nepal and Society of anesthesiology (SAN) this year. We have been conducting Advance cardiac life support training for the hospital staffs in regular basis throughout the year. We are also conducting regular classes presented by faculty doctors and resident doctors every Thursday. We are also planning to conduct Hemodynamic monitoring and Transesophageal Echocardiography workshop in 2019. We are also planning to start fellowship program on cardiovascular anesthesia in the near future.

Educational participation includes residency rotations for the National Academy of Medical Sciences (NAMS), B P Koirala Institute of Health Science (BPKIHS), Nepalgunj Medical College (NMC), Nobel Medical College and Lumbini Medical College (LMC). Cardiac surgical program are assisted in Kathmandu University of Medical Sciences (KUMS), Dhulikhel Hospital and other centers as resource personal. CME program of the hospital is being conducted in regular basis.

## CONFERENCE AND RESEARCH ACTIVITIES

- Dr Jeju Nath Pokharel, Dr Ashish Amatya, Dr Santosh Parajuli, Dr Prabesh Gyawali and Dr Rabin Vaidhya successfully completed 2 weeks of Transesophageal Echocardiography training from Hero DMC cardiac centre Ludhiana, India in 2018.
- Dr Battu Kumar Shrestha is undergoing one year of Cardiac anesthesia fellowship at Medanta Hospital Delhi, India.
- Dr Jeju Nath Pokharel successfully completed Pediatric Cardiac Anesthesia fellowship from Seoul National University Children's Hospital in the year 2018.
- Dr Smriti Mahaju attended 15th AACC Congress in the month of November 2018.
- Dr Santosh Parajuli attended ISACON in Agra, India in the month of December 2018.
- Dr Smriti Mahaju is undergoing a research on "Delirium after cardiac surgery: Prospective Observational Cohort Study."



## NON-INVASIVE CARDIOLOGY AND OPD SERVICES

Dr. Amrit Bogati, Dr.Sachin Dhungel, Dr.Kiran Acharya, Dr.Roshni Shahi

### INTRODUCTION

Since establishment of Shahid Gangalal National Heart Center in 1995 there has been significant improvement in noninvasive services provided by the center. The number of patients receiving those services have increased by many fold in the past decade. Each year new services are been added upon.

Noninvasive cardiology is an important field of cardiology which focuses upon diagnosis and treatment of various cardiovascular diseases without using any form of interventional procedures. These are considered to be safe, cost effective and form the mainstay in the diagnosis and treatment of heart disease. Advanced non-invasive cardiology imaging and technologies have dramatically improved early detection and treatment of various cardiovascular diseases.

### SERVICES PROVIDED

Services provided by the noninvasive cardiac unit include Adult and Pediatric echocardiography, Stress echocardiography, Trans-esophageal echocardiography (TEE), Fetal echocardiography, 3D Echocardiography, Treadmill test, Ambulatory blood pressure (ABP) monitoring, Holter monitoring, Electrocardiogram (ECG), X-ray, Ultrasonography, Doppler study including carotid and venous Doppler, Enhanced External Counter Pulsation (EECP), Benzathine penicillin injection and CT scan.

Currently Noninvasive cardiology unit in our hospital is equipped with eight full functioning echo machines (7 Philips and 1 Mindray) with three TEE probes and two 3D probes. Besides we have 25 Holter machines (5 new machines were added this year). Other services include 4 treadmill test, 11 ABP devices and 2 ECG machines.

Portable Echo machines are present in emergency, CCU/MICU and surgical ICU and are of great help in early diagnosis and prompt recognition of cardiovascular complications. Other services like carotid Doppler, ultrasound, Fetal Echo, arterial and venous Doppler are of great help in diagnosing cardiovascular as well as non-cardiac conditions promptly.

One of the great achievements in our noninvasive cardiology unit this year is the installation of Aquilion one 640 slice CT scan machine. CT coronary angiography, CT pulmonary angiography, CECT of various part of body and other CT guided diagnostic modalities are running in full-fledged manner in our hospital at present.

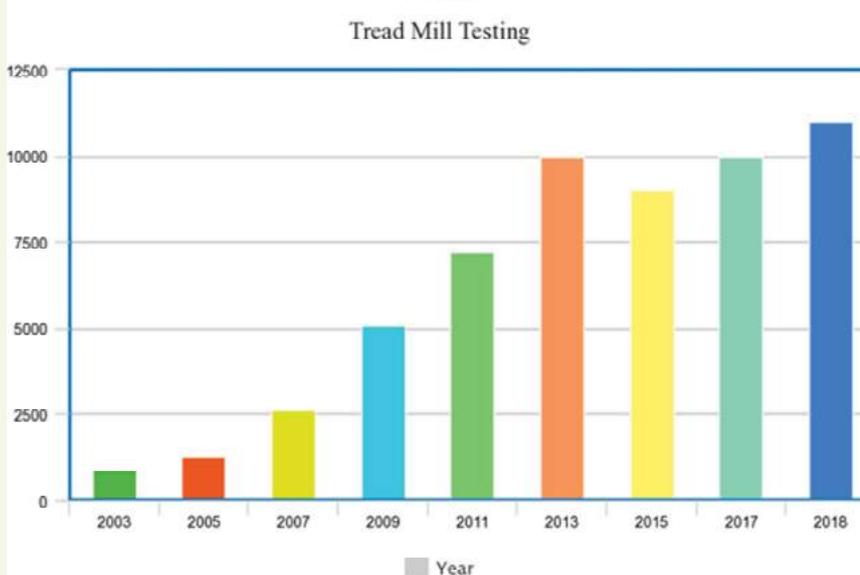
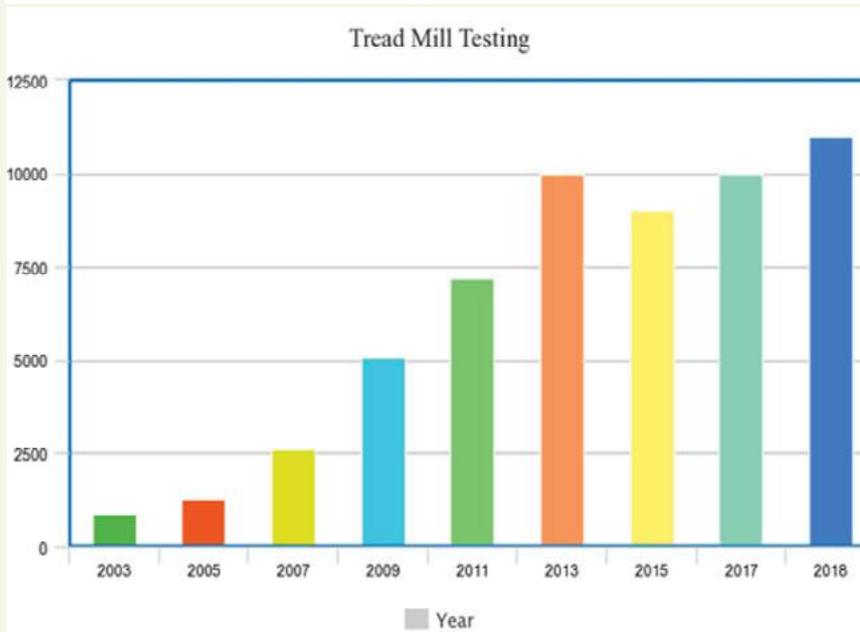
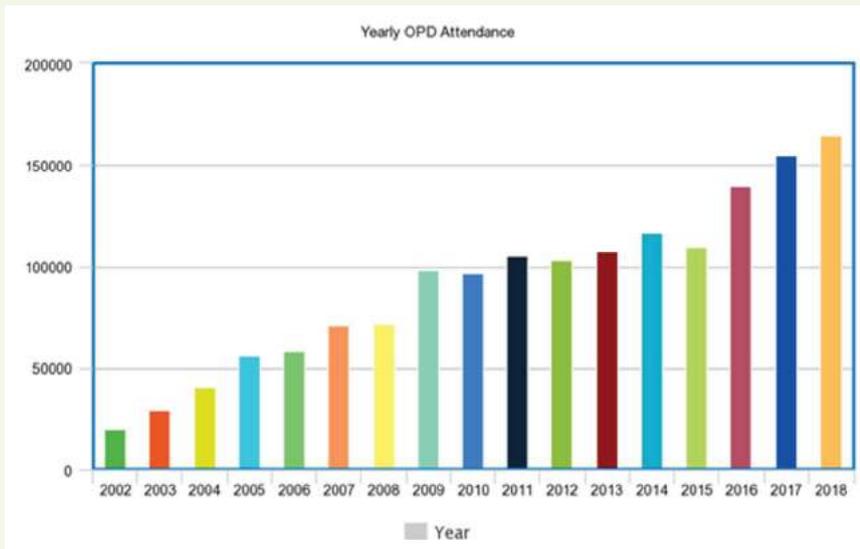
Each year there has been significant increase in the number of patients who attended the outpatient department. In the year 2017, there were total of 153462 patients attended the outpatient department, whereas in the year 2018, 164528 patients attended the OPD. It is the highest number of patients attending outpatient department till date.

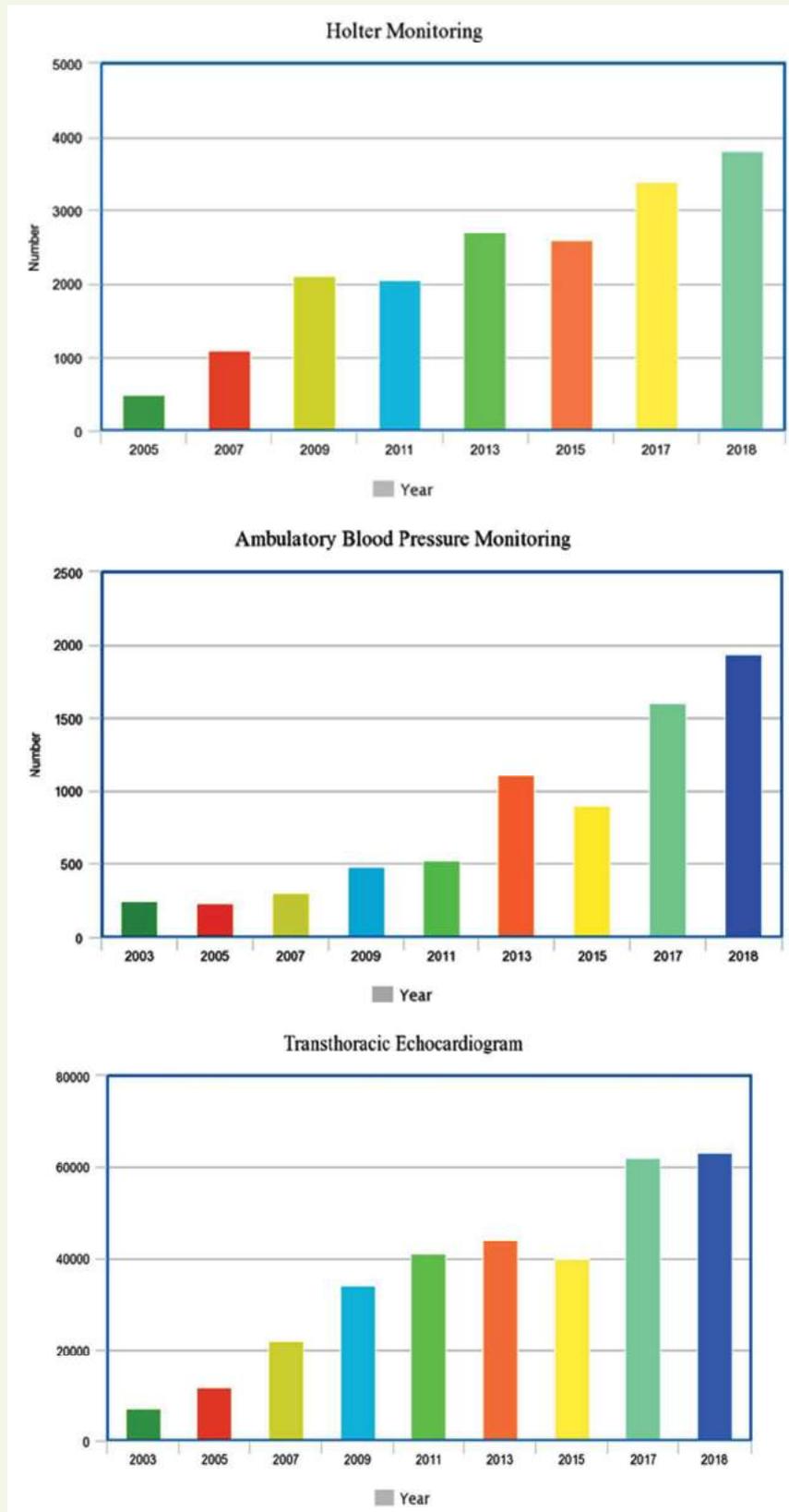
Each year there have been significant increase in the number of patients who attended the outpatient department. Though in the year 2015, slight decrease was observed in total number of patients attending the outpatient department, in the year 2016, there were total of 140,093 patients attending the outpatient department, making it the highest number of patients attending outpatient department till date.

#### Number of Patients Receiving Non-invasive Services in 2018

| Investigations                  | Male  | Female | Total |
|---------------------------------|-------|--------|-------|
| ECG                             | 40140 | 35035  | 75175 |
| Echocardiogram                  | 33798 | 29092  | 62890 |
| Echo Screening                  | 4386  | 4033   | 8419  |
| Dobutamine Stress Echo          | 23    | 17     | 40    |
| Fetal Echo                      | 206   | 653    | 859   |
| Tread Mill Testing              | 6601  | 4376   | 10977 |
| Holter Monitoring               | 2042  | 1770   | 3812  |
| ABP monitoring                  | 1121  | 811    | 1932  |
| Trans esophageal Echo           | 449   | 627    | 1076  |
| X-ray                           | 29801 | 27687  | 57488 |
| Carotid Doppler                 | 390   | 230    | 620   |
| Magner ECG                      | 308   | 275    | 583   |
| Renal Doppler                   | 0     | 0      | 0     |
| Single limb venous Doppler      | 55    | 35     | 90    |
| Bilateral limb venous Doppler   | 15    | 6      | 21    |
| Single limb arterial Doppler    | 6     | 3      | 9     |
| Bilateral limb arterial Doppler | 5     | 2      | 7     |
| Ultrasound abdomen and pelvis   | 810   | 576    | 1386  |

Graphs below show a comparison in the number of patients receiving non-invasive services since the beginning of the service at the OPD:







## PEDIATRIC CARDIOLOGY SERVICE

P 4M Th hTbf v2P 4k ffTh v NTh yv ffY4O2P 4b v ffThThz Th2P 4j ffv hTbf v

### INTRODUCTION

Shahid Gangalal National Heart Centre is one of the very few hospitals in Nepal providing cardiac health services to the pediatric population. It is a major referral center from all over Nepal and neighboring country where children suffering from heart disease are appropriately diagnosed and managed.

### SERVICES PROVIDED

Pediatric Pediatric Cardiology Unit is providing its services on all working days (i.e., Sunday to Friday). The services provided by the unit include OPD, Emergency, Inpatient, Invasive and Non-Invasive services. In its starting days since 2004 A.D, due to very limited resources, the OPD services were running only thrice a week which was expanded to all working days since March 2013.

Each year there has been an increasing number of OPD attendants, however because of the geographical difficulties on reaching Kathmandu, it was difficult for the patients to come to the hospital as the majority of our patients are from remote areas of Nepal. Despite of such difficulties there was a dramatic increment in the OPD attendants with a total number reaching 11,697 in this year. Among them, 6676 (57.07%) were male and 5021(42.93%) were female as shown in Fig 2.

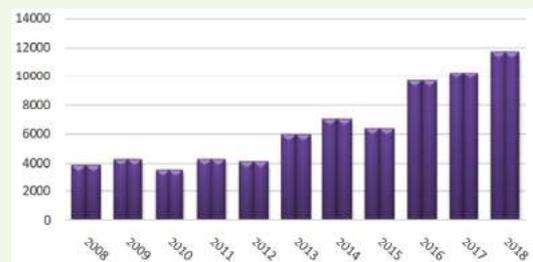


Fig. 1: No. of OPD patients as per year

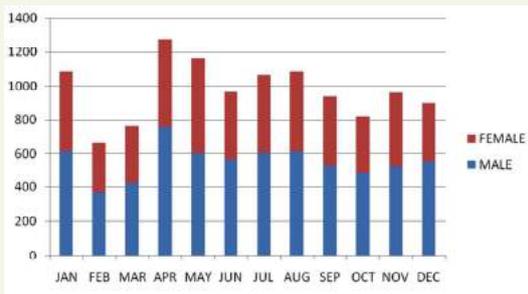


Fig. 2. Gender-wise distribution of OPD patients

Inpatient services for pediatric patients have been started since last seven years. Total of 170 patients were admitted in Pediatric ward this year. Along with its own inpatient children, Pediatric Cardiology Unit is also looking after those who are being admitted in various surgical wards both pre-operatively or post-operatively.

Table 1: Number of Inpatient in Pediatric Ward

| Diagnosis   | No. Of Patients |
|---|-----------------|
| Heart Failure   | 50              |
| -Rheumatic Heart Disease                                  | 33              |
| -Congenital Heart Disease                                 | 15              |
| -Miscellaneous  | 2               |
| Infective Endocarditis                                    | 7               |
| Acute Rheumatic Activity                                  | 10              |
| S/P Intervention  | 17              |
| Arrhythmias   | 5               |
| Pericardial Effusion/ post - Pericardiocentesis           | 11              |
| Miscellaneous along with patients < 1 year for cardiac CT | 70              |
| <b>Total</b>  | <b>170</b>      |

(NB: Some children underwent transcatheter procedures had been admitted in other wards due to unavailability of beds in Pediatric ward causing disparity in numbers.)

## PEDIATRIC ECHOCARDIOGRAPHY

Pediatric Cardiology Unit has expanded its two dimensional (2D) Transthoracic Echocardiography (TTE) services from three days a week to all working days since 2013. Apart from TTE, we are also involved in Transesophageal echocardiography (TEE), 3D Echocardiography and Fetal

Echocardiography. Along with our own OPD patients, we get referrals for echocardiography from different departments in the hospital especially from Cardiac Surgery department. A total of 6997 patients had undergone TTE by the Pediatric Cardiology Unit in this year. Among them 57.98% (n=4057) were male and 42.02 % (n=2940) were female. The minimum age of children underwent TTE was 1 day of life and maximum was 63 years of age. (Sometimes adult patients with Congenital Heart Disease are also referred for TTE).

The total number of Fetal Echocardiography performed in this year was 716.

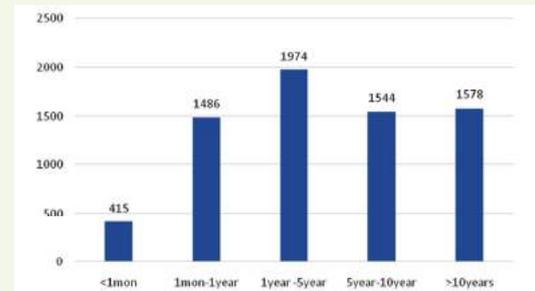


Fig. 3: Age wise distribution of patients underwent TTE

Abnormal finding in echocardiogram was seen in 76.75% (n=5370) of patients with the most common finding being Acyanotic Congenital Heart Disease which was present in 34.89% (n=2441) of children. Other abnormal findings were classified as Cyanotic CHD, Rheumatic Heart Disease, post intervention procedures, post-surgical procedures, Complex heart disease and miscellaneous diseases. The percentage of each of the categories is shown below.

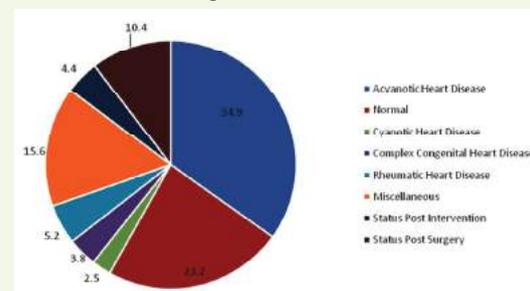


Figure. 4: ETrans Thoracic Echocardiographic findings.

The number of TTE has been increased since 2013 when the service had been extended to six days a week. Although OPD attendance increased this year, there has been a decline in the number of TTE performed in comparison to the previous years is due to patients visiting OPD without symptoms related to cardiovascular system.

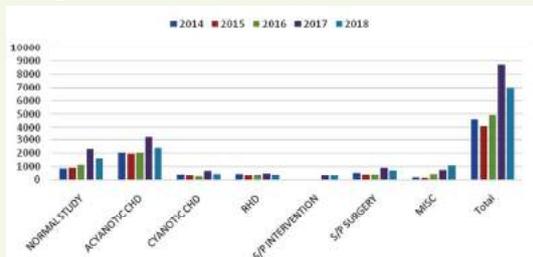


Figure. 5: Comparison of TTE findings in consecutive five years.

### SERVICES PROVIDED IN EMERGENCY DEPARTMENT

Number of Pediatric patients attended in emergency department (ER) this year was 392. Among them, 30 % critical cardiac cases were admitted and others were kept on OPD follow up. Majority of cases were Rheumatic Heart Disease followed by structural anomalies (Congenital Heart Diseases) and arrhythmias. Non cardiac cases attended to ER were referred to General Children’s Hospital after evaluation and stabilization (if needed) like Anxiety, Seizure disorder, Pneumonia and Acute Gastritis.

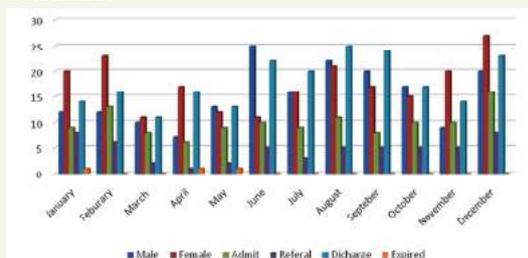


Fig. 6. No. of Emergency patients as per month in 2018

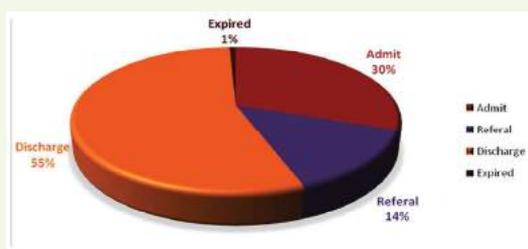


Fig.7. Distribution of Pediatric patients in ER in 2018

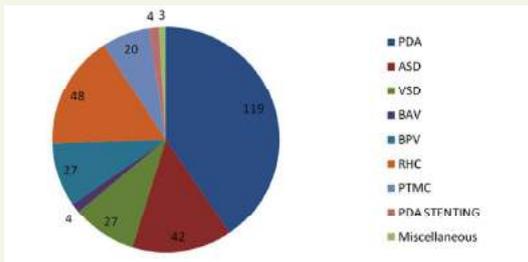
### TRANSCATHETER PROCEDURES PERFORMED IN CHILDREN AT SGNHC

Both diagnostic as well as therapeutic cardiac catheterization procedures are being performed in children by the Pediatric Cardiology Unit. Since the availability of Children Assistance Programme (CAP) by the government where children undergoing intervention procedures are given services free of charge, there has been a sharp increase in the number of children seeking treatment. Therapeutic catheterization like Balloon Pulmonary Valvuloplasty (BPV), Balloon Aortic Valvuloplasty (BAV), Balloon Atrial Septostomy (BAS), Percutaneous Transluminal Mitral Commissurotomy (PTMC), ASD, VSD and PDA device closures and PDA Stenting are regularly being performed in children.

Table 2: Distribution of patients underwent intervention

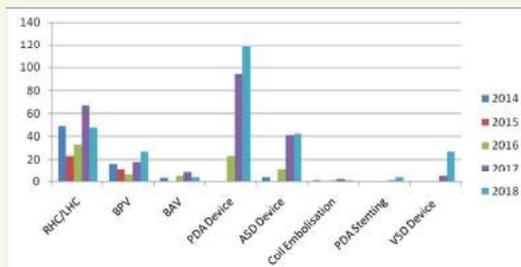
| Intervention  | No. of Patients |
|---|-----------------|
| Right and Left Heart Catheterization (RHC and LHC)    | 48              |
| BPV(Balloon Pulmonary Valvuloplasty)                  | 27              |
| BAV(Balloon Aortic Valvuloplasty)                     | 4               |
| ASD Device Closure                                    | 42              |
| PDA Device Closure                                    | 119             |
| VSD Device Closure                                    | 27              |
| PTMC(Percutaneous Transluminal Mitral Commissurotomy) | 20              |
| PDA Stenting  | 4               |
| Miscellaneous   | 3               |
| -AV Fistula Coil Embolization                         | 1               |
| -SVG (Shuntovenogram)                                 | 1               |
| -BAS (Balloon Atrial Septostomy)                      | 1               |
| <b>TOTAL</b>  | <b>294</b>      |

(NB: One patient underwent VSD and ASD Device closure and one patient underwent VSD and PDA Device Closure in same setting)



**Figure. 8: Comparison of TTE findings in consecutive five years.**

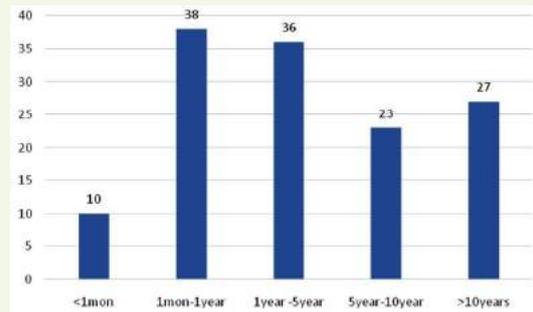
Diagnostic catheterization still remains a gold standard tool in complex heart disease and severe pulmonary hypertension for accurate assessment of pulmonary artery pressure and confirmation of anatomy of heart. Large number of children benefitted from the transcatheter interventions. In 2018, we independently performed PDA and ASD device closures along with one Coil Embolization and few PDA stentings as well. We have also performed VSD device closure under supervision of renowned visiting doctors from India. like Dr. Ravi Ranjan Tripathi (CHL Hospital, Indore) and Dr. Neeraj Awasthi (Max Hospital, New Delhi). We heartfully thank them for letting us know about their valuable skills.



**Figure. 9 Comparison of Transcatheter Services in five consecutive years**

## CARDIAC CT

Since the start of Cardiac CT service in our centre this year, Pediatric cardiac CT reporting is being performed by radiologist along with Pediatric Cardiology Unit. Total 134 pediatric patients with Complex Congenital Heart Defects underwent cardiac CT this year.



**Figure. 10 Age wise distribution of Pediatric patients underwent Cardiac CT .**

## HUMAN RESOURCES

Pediatric Cardiology unit comprises of one Consultant Pediatric Cardiologist, One Pediatric Cardiologist, Three Registrars and three Resident Officers. Despite inadequate manpower we are trying our best to provide the best possible treatment to the ever increasing number of children with cardiac problems. We hope to add further on it to cope with the load in future.

We are also providing basic training in Pediatric Cardiology including Transthoracic Echocardiography to interested candidates from different institutes. In 2018 we had one Pediatrician from Kirtipur Hospital. Pediatric residents from Tribhuvan University Teaching Hospital, Lumbini Medical College, Patan Academy of Health Sciences have also joined the Pediatric Cardiology Unit for their residency posting in Pediatric Cardiology.

## CONCLUSION

Due to increased awareness of heart disease in Nepal, there has been steady increase in the number of patients attending Pediatric Cardiology OPD and ER. With limited resources we are continually trying to give quality services and will leave no stone unturned for betterment of Pediatric Cardiology service in the future.



## ACUTE CORONARY SYNDROME AT SGNHC

Dr. Sanjeev Mahat, Dr. Tanya Chaudhary, Dr. Binayak Gautam, Dr. Reeru Manandhar, Dr. D.N.Yadav

### INTRODUCTION

Coronary artery disease (CAD) continues to be the leading cause of mortality and morbidity worldwide. Although CAD mortality rates worldwide have declined over the past four decades, CAD remains responsible for about one-third or more of all deaths in individuals over age 35. It places a large economic burden on health care system as CAD is one of the most frequent reason for hospital admission. The incidence of CAD has decreased over time in developed countries but it is increasing in developing countries like Nepal. At the turn of the century, it was reported that coronary heart disease mortality was expected to increase approximately 29 percent in women and 48 percent in men in developed countries between 1990 and 2020. The corresponding estimated increases in developing countries were 120 percent in women and 137 percent in men.

CAD results from atherosclerotic changes within the walls of the coronary arteries that obstruct the normal blood flow to the

cardiac muscles leading to myocardial ischemia and, in severe cases, infarction. There are specific risk factors related to each of the 2 phases—atherogenic and thrombogenic—of the pathogenesis of CAD. Atherogenic risk factors can be classified into 3 subgroups: upstream, behavioral, and physiological risk factors. Upstream factors are those that provide a favorable environment for individuals to acquire the behavioral and physiological risk factors and include population level factors such as urbanization, globalization, public policies, trade agreements, socioeconomic status, and education. Behavioral risk factors include unhealthy diet, smoking, psychosocial factors, and sedentary lifestyle. Physiological risk factors include hyperlipidemia, obesity, hypertension, and diabetes. The thrombotic risk factors for CAD include high fibrinogen levels, abnormal platelet size and function, decreased endogenous fibrinolytic activity, and elevated levels of lipoprotein A.

Acute coronary syndrome (ACS) refers to a spectrum of clinical presentations

ranging from those for ST-segment Elevation Myocardial Infarction (STEMI) to presentations found in Non-ST-segment Elevation Myocardial Infarction (NSTEMI) or in Unstable Angina. It is almost always associated with rupture of an atherosclerotic plaque and partial or complete thrombosis of the infarct-related artery. Chest Pain, which is usually described as pressure, squeezing, or a burning sensation across the precordium and may radiate to the neck, shoulder, jaw, back, upper abdomen, or either arm is the most common symptoms.

ECG findings differentiates between STEMI and NSTEMI and cardiac enzymes needed to differentiate between NSTEMI and Unstable Angina. STEMI are usually managed initially with antiplatelets and revascularization either with thrombolytic therapy or with primary percutaneous intervention and other ACS initially managed with anticoagulants, antiplatelets and other supportive treatments.

## SERVICES PROVIDED

A coronary care unit (CCU) is a hospital ward specialized in the care of patients with Myocardial Infarction, Unstable Angina, Cardiac Dysrhythmia and various other cardiac conditions that require continuous monitoring and treatment. We have a specially designed, well equipped 12 bedded unit with comprehensive central monitoring, central oxygen supply, 24hr portable x-ray, portable echocardiography, defibrillator, mechanical ventilator and IABP supports.

CCU has round the clock duty of medical officers with on call cardiologist 24hrs available with well-trained nursing staffs and other health professionals along with the support from anesthesia department.

The acute coronary cases were predominantly admitted through emergency department. ECG was taken within 10 minutes of patient's arrival. Patients with STEMI were managed with primary PCI

or thrombolysed according to duration of chest pain and affordability of patient. Rescue PCI was also rendered whenever necessary. Patients with STEMI, NSTEMI and high-risk UA almost all admitted in CCU. However, patients with low to moderate risk UA were admitted in CCU if beds were available, otherwise in general ward.

## DEMOGRAPHIC FEATURES

In this year 2018, Total 806 patients got admitted in CCU with diagnosis of ACS. Among them 708 (87.8%) were STEMI, 55(6.8%) were NSTEMI and 43 (5.4%) were of UA. ACS showed male predominance with total of 583(72.3%) patients whereas 223 (27.7%) were female.

## DEMOGRAPHIC FEATURES

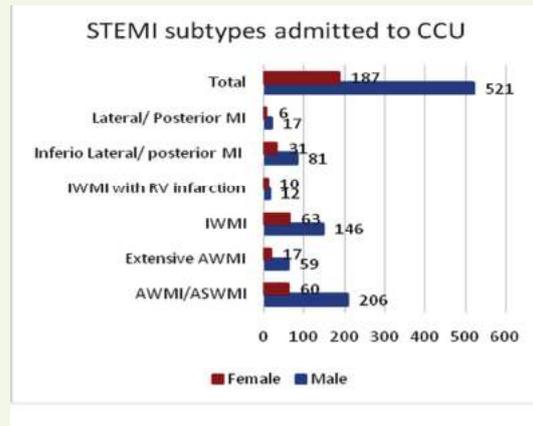
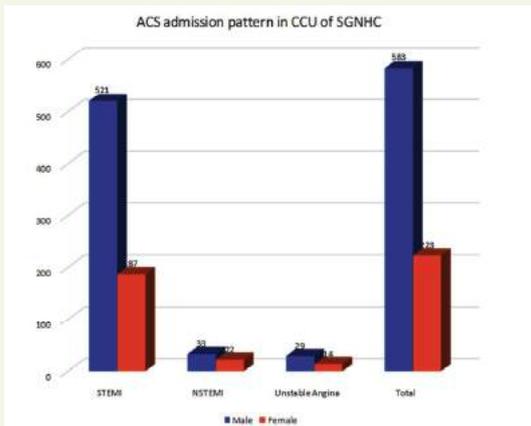
In this year 2018, Total 806 patients got admitted in CCU with diagnosis of ACS. Among them 708 (87.8%) were STEMI, 55(6.8%) were NSTEMI and 43 (5.4%) were of UA. ACS showed male predominance with total of 583(72.3%) patients whereas 223 (27.7%) were female.

## THROMBOLYSIS VS PRIMARY PCI

Among 708 STEMI cases 281 (39.6 %) underwent PPCI compared to 23.8% last year. Similarly, 15 (2.1%) underwent Rescue PCI compared to 0.83% last year. Likewise, 75(10.59%) patients received Thrombolysis (last year 11.8%).

## MORTALITY

Overall mortality in patients admitted with ACS was 74(9.1%) which is slightly higher than last year (7.5%) .45 males and 22 females died due to ACS.



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|--------------------------------|-----|------|-----|-----|----|----|---|-----|
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| V b V                          | 86E | 7: B | B9  | DA  | 7  | 7B | 8 | 7:  |
| V b V ff Thgk ff -v x3<br>ff   | 88  | 78   | 76  | 7:  | 6  | 9  | 6 | 8   |
| V -z ff av z vf b z3<br>ff b V | 778 | D    | 97  | 98  | 9  | 76 | 6 | A   |
| av z vf e z ff b V             | 89  | 7C   | B   | 76  | 6  | A  | 6 | 9   |
|                                | PER | NGF  | FRP | GRF | FN | OR | P | PM  |



## MEDICAL INTENSIVE CARE UNIT (MICU)

Dr. Parag Karki, Dr. Rakesh Bahadur Adhikari, Dr. Sauriya Pahadi, Dr. Sadikchhya Karki

### INTRODUCTION

The service through Medical ICU in our institution was started in August 2002. Since the inception the foremost objective of this unit is to provide intensive care for patients presenting with cardiac failure of various etiologies. It also provides care to critically ill cardiac patients with other comorbid medical conditions like chronic renal failure, stroke and sepsis. On-duty medical officer is posted round the clock to look after MICU along with efficient nursing staff and are supervised by on-duty senior residents and registrar.

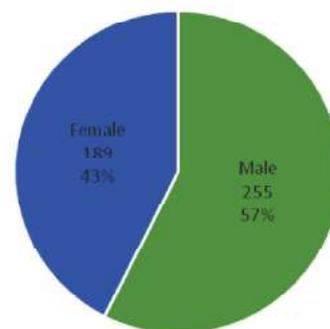
### SERVICES PROVIDED LAST YEAR

Out of 444 patients admitted in the MICU in 2018 the proportion of female patients was 43% and male was 57%. The mean age of admitted patients was 62 years with the youngest patient admitted was 6 years old. The eldest patient admitted was 93 years old.

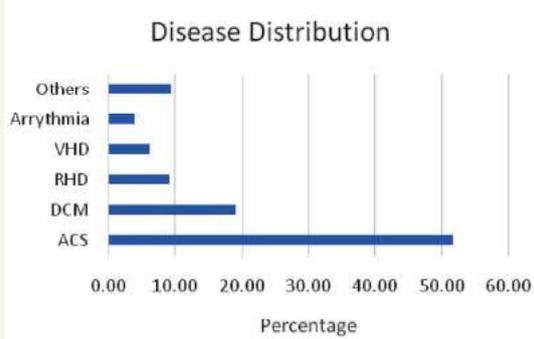
The patients were admitted with various diagnoses which ranged from acute

myocardial infarction to chronic illnesses like COPD, chronic renal failure, Cardiomyopathies and Rheumatic Heart Disease (RHD). The acute coronary syndrome was most common cause of admission (51.8%) that required intensive monitoring and supportive care. Second leading cause of admission in MICU was dilated cardiomyopathies with various etiologies (idiopathic, ischemic, peripartum etc) 19.14% of the total MICU admissions. These cases were mostly admitted following the episodes of acute decompensated heart failure and had to be managed with aggressive diuresis, inotropic support and if required ventilator support.

Sex Distribution



Rheumatic Heart Disease including post Mitral valve replacement (MVR), Aortic valve replacement (AVR) and stuck valve was another common presenting illness at the Medical ICU (9.23%). Non rheumatic valvular heart disease (6.31%) and Arrhythmias including Heart Block (4.05%) were also fairly common admissions. Admissions due to other diseases (9.4%) included congenital heart disease, pulmonary embolism, pericardial diseases, ischemic heart diseases, sepsis and primary respiratory illness with acute exacerbation of COPD, asthma, pneumonia.

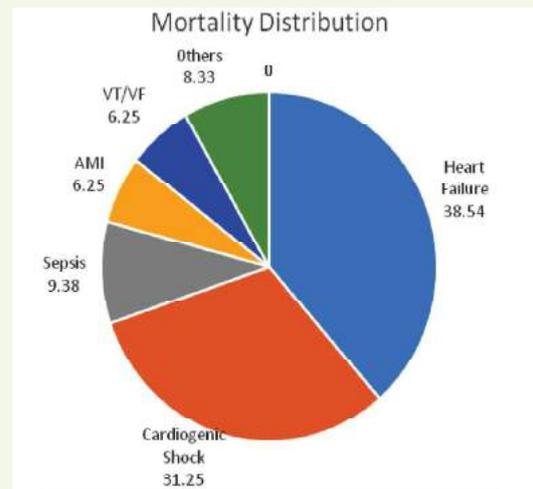


We have facility to take frequent bedside subspecialty consultations (Nephrology, Neurology, Endocrinology, Neurosurgery etc.) for better patient care. We have been giving frequent bedside hemodialysis with the help of team from National Kidney Centre to the patients requiring temporary dialysis services in acute settings. We also have facility of inter hospital referrals when required for better patient care and management. Our Medical ICU services also give opportunity for poor patients who require prolonged ICU management in form of charity fund and drugs which are supplied from the Jayanti trust. The senior citizens who are above age are fully covered by senior citizen scheme during the in hospital stay.

## MORTALITY

Total Total MICU mortality was 96 (21.62%) out of which 54 were male and 42 were female which were 22.22% and 21.62 % of respective admissions. Major cause of MICU mortality was Heart Failure 37 patients (38.54%) followed by cardiogenic shock 30 patients (31.25%). Other common causes of death were Sepsis in 9 patients

(9.38%) and cardiac arrhythmias like VT and VF and Acute Myocardial Infarction was cause of death in 6 patients (6.25%) each. Cardiac rupture occurred in 6 patients which accounts 5.21% of total mortality. Other various causes of death like respiratory failure, pulmonary embolism, pulmonary edema, cardiac rupture etc. were listed as the cause in 12.17% of deaths.



## CONCLUSION

The overall demographics of patients along with morbidity and mortality seems to be similar to previous years with acute coronary syndrome being the most common cause of admission followed DCM. We also experienced high rate of mortality of around 21% with heart failure being most common cause of mortality followed by cardiogenic shock. Apart from cardiac cases we also saw patients with multisystem disorders including pneumonia and sepsis.

In the upcoming years, the institute is planning to further expand the unit and the number of beds available.



# INTERVENTIONAL CARDIOLOGY SERVICES

P hv ffTIX v hff •TBP hv ffi hff •TIXDQP Nffv Y4i ff vftz v2P Tv v ffinyv 2P Mv ffi Yv fiff

## INTRODUCTION

Cardiac Cardiac diseases are the leading cause of death in Nepal and worldwide. In response to this public health epidemic, Shahid Gangalal National Heart Center provides a full spectrum of services from diagnostic testing to cardiac interventions. The centre is responsible for majority of invasive as well as minimally invasive cardiac interventions in the country. It is the tertiary level cardiac centre in Nepal pioneered in handling most complex cardiac cases and emergencies.

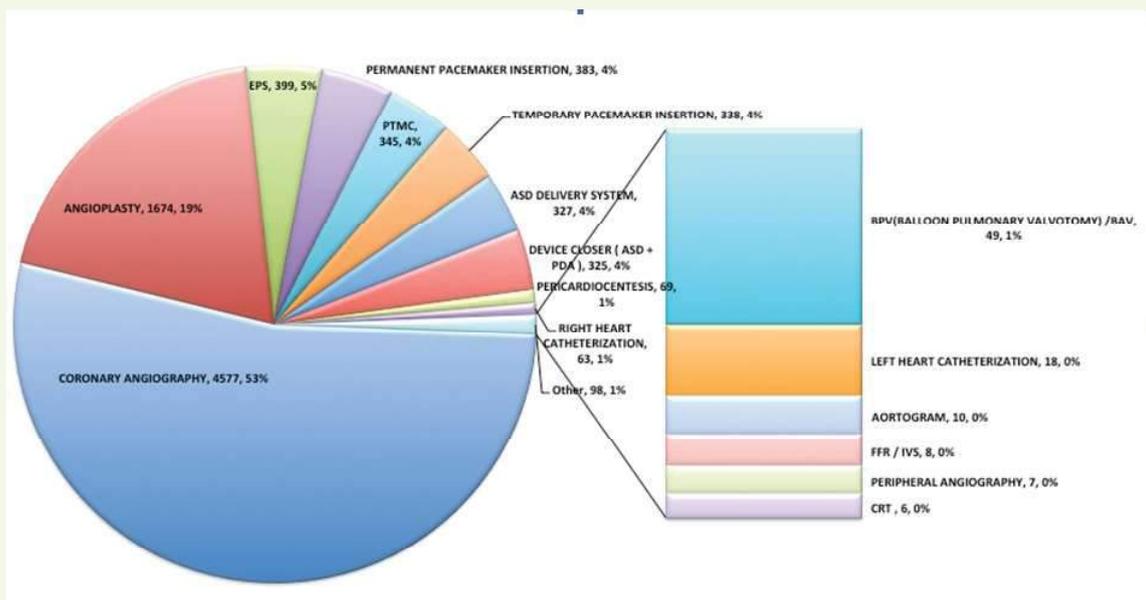
The interventional cardiology branch got established at this centre in the year 2058 BS. An integral part of this program is three Cardiac Catheterization labs that provide diagnostics and life-saving procedures. To meet the growing demand for cardiovascular services, while also enhancing the service offerings, the hospital is expanding its

cardiac care services by adding a fourth cardiac catheterization lab in coming years.

Early intervention can save lives. Cardiac catheterization team at SGNHC, provide 24x7service to patients who require immediate intervention such as patients with Acute Myocardial Infarction, Complete Heart Block, life threatening Arrhythmia and many more. Currently, three cardiac catheterization labs are at full capacity. Apart from emergency coronary interventions other interventions including PTCA, FFR estimation to interventions like BPV, BAV, PTMC, pacemaker insertions, Electrophysiological studies, radiofrequency ablations, structural interventions like ASD, PDA, VSD device closures and diagnostic left and right heart catheterization are being done on OPD basis, which is increasing in numbers every year.

| Procedure                             | Jan        | Feb        | Mar        | Apr        | May        | Jun        | Jul        | Aug        | Sep        | Oct        | Nov        | Dec        | All Total   |
|---------------------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|-------------|
| CORONARY ANGIOGRAPHY                  | 346        | 336        | 377        | 496        | 386        | 379        | 419        | 440        | 367        | 325        | 327        | 379        | 4577        |
| ANGIOPLASTY                           | 135        | 123        | 155        | 191        | 135        | 129        | 116        | 161        | 154        | 119        | 113        | 143        | 1674        |
| FFR / IVS                             | 1          | 0          | 0          | 0          | 2          | 1          | 1          | 1          | 0          | 0          | 2          | 0          | 8           |
| VSD device closure                    | 0          | 0          | 3          | 0          | 11         | 0          | 8          | 0          | 0          | 1          | 11         | 2          | 36          |
| ASD device closure                    | 36         | 13         | 21         | 10         | 16         | 27         | 19         | 7          | 27         | 15         | 28         | 32         | 251         |
| PDA Device closure                    | 13         | 11         | 14         | 13         | 12         | 11         | 18         | 16         | 10         | 12         | 9          | 12         | 151         |
| CRT                                   |            |            |            |            |            |            |            | 2          | 0          | 1          | 1          | 2          | 6           |
| PERMANENT PACE-MAKER INSERTION        | 31         | 18         | 39         | 30         | 35         | 30         | 36         | 33         | 38         | 25         | 35         | 33         | 383         |
| EPS                                   | 37         | 21         | 47         | 29         | 36         | 46         | 41         | 37         | 30         | 23         | 22         | 30         | 399         |
| TEMPORARY PACE-MAKER INSERTION        | 22         | 31         | 30         | 26         | 27         | 22         | 23         | 32         | 29         | 25         | 37         | 34         | 338         |
| PERICARDIOCENTESIS                    | 5          | 5          | 5          | 3          | 4          | 8          | 5          | 10         | 7          | 8          | 6          | 3          | 69          |
| PERIPHERAL ANGIOGRAPHY                | 0          | 0          | 0          | 0          | 1          | 2          | 0          | 2          | 0          | 0          | 0          | 2          | 7           |
| PTMC                                  | 21         | 18         | 40         | 19         | 45         | 28         | 31         | 39         | 32         | 22         | 19         | 31         | 345         |
| BPV(BALLOON PULMONARY VALVOTOMY) /BAV | 5          | 4          | 6          | 6          | 6          | 4          | 3          | 5          | 2          | 3          | 3          | 2          | 49          |
| LEFT HEART CATHETERIZATION            | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 5          | 2          | 3          | 3          | 5          | 18          |
| RIGHT HEART CATHETERIZATION           | 4          | 2          | 9          | 2          | 1          | 11         | 9          | 5          | 2          | 6          | 4          | 8          | 63          |
| AORTOGRAM                             | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 1          | 3          | 4          | 2          | 10          |
| <b>Total</b>                          | <b>656</b> | <b>582</b> | <b>746</b> | <b>825</b> | <b>717</b> | <b>698</b> | <b>729</b> | <b>795</b> | <b>701</b> | <b>591</b> | <b>624</b> | <b>720</b> | <b>8384</b> |

This data is solid evidence that there is increase in interventional procedures compared to past years. SGNHC has been making outmost endeavour to keep up with current demand and maintaining quality of service despite increase in number of procedures.





## CARDIAC ELECTROPHYSIOLOGY AND DEVICE IMPLANTATION

Dr Prashant Bajracharya, Dr. Jagat Adhikari, Dr. Laxeshwar Pradhan, Dr. Mandita Chamlagain

### INTRODUCTION

Shahid Gangalal National Heart Center, as is well known, has been serving the country as a leader in cardiac care and has departments dedicated to various fields of cardiology. The Division of Cardiac Electrophysiology and Device Implantation is one of them.

The Division of Cardiac Electrophysiology at our institute is of international standard in the evaluation and treatment of heart rhythm disturbances, known as arrhythmias - a condition which affects millions of people each year. As the only national centre in the country providing services devoted to the care of patients with irregular heart rhythms, palpitations, etc. the division of cardiac electrophysiology offers a full range of diagnostic and therapeutic services for simple and complex arrhythmias.

Since 2004 AD, the centre has been proving its best in the field and every year it has shown progress in terms of technology and efficacy.

### Facilities and Services

The electrophysiology programme in the department had undertaken about 500 electrophysiological study supplemented by radiofrequency ablation in the year 2018. Out of these 449 cases were performed with conventional 2D method and 46 cases were performed with 3D mapping.

The division also performs device management of various bradyarrhythmias like sinus node dysfunction and atrioventricular block. Various pacing modalities like single and dual chamber implants are being done regularly. The division regularly performs intracardiac cardioverter defibrillators (ICD) for recurrent ventricular tachycardias not amenable to radiofrequency ablation and Biventricular pacing with CRT for congestive heart failure. In the year 2018, out of the total 400 devices implanted, 13 were CRT, 13 others were ICD and the rest were cardiac pacemakers.

| o 8 pk Gn                        |                  |                |           |     |
|----------------------------------|------------------|----------------|-----------|-----|
| Mk c gi                          | i fkvft          |                | 7D8       | 7D9 |
|                                  | M fkvft          |                | 7         |     |
| Mk gi                            | az ffzy v Thv    | l el           | 797       | 89B |
|                                  |                  | O xzvfzy v Thv | 9D        |     |
|                                  | gffTh ffzy v Thv | l el           | 9:        |     |
|                                  |                  | O xzvfzy v Thv | C         |     |
|                                  | P vft v Thv      |                | 9         |     |
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|                                  | hz vft           |                | 7E        |     |
| M fffSft z                       |                  | A              | A         |     |
| c ff y xffz vxThxv yff .Reh ft / |                  | 79             | 79        |     |
| gzfv zy xv z                     |                  | 78             | 78        |     |
|                                  |                  |                | <b>MS</b> |     |

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| gkdi ki             | D  |
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| gffThe z z vft ekO- | 7  |
| ev vIffff ki        | 7  |
| M fffti vxThxv yff  | E  |
| ev vIffff ekO-      | 7  |
| e z z vft           | 7  |
| ev vIffff           | 8  |
| <b>MD</b>           |    |

| n t                         |                  |            |
|-----------------------------|------------------|------------|
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|                             | Tz z v z fvxz z  | ::         |
| P vftxTh wz                 | c z ff fv vff    | : 8        |
|                             | Tz z v z fvxz z  | 9          |
| Ov yffx gz xTh ffv ff z v   | .Ogi /           | 79         |
| M v zy V fv vffz Ov yff z z | Pz w fffv .MOP / | 79         |
| evxz vfiz azvy gzvyffi z    |                  | C          |
|                             |                  | <b>MEE</b> |

### CONCLUSION

Altogether, the division of Electrophysiology at SGNHC is playing the pivotal role in providing the electrophysiology services in the country. With limited resources and limited manpower, the department is admirable for the heap of work it has been doing.



## EMERGENCY SERVICES

P 4h vfi Thv W TH2P 4Y ffi • hTh v 2P 4NffTh g vffiNv vf2P 4Mfv hThffiThP 4T z Th YTh zft

### INTRODUCTION

Emergency Care services of Shahid Gangalal National Heart center (SGNHC) is a nationally recognized leader in emergency cardiac care. The Emergency services needs quick thinking and fast treatment which are vital to recovery. At SGNHC the emergency care is fully dedicated and equipped to any cardiac emergency care as well as other critical emergencies with highly trained medical professionals and hospital staffs providing services 24 hours a day.

### SERVICE PROVIDED

As The emergency Cardiac care services at SGNHC is fully equipped with cutting-edge technology and highly trained staff to respond to any cardiac emergency. The services provided are as followed:

1. 24-hour cardiac emergency services as per evidence based care.
2. Emergency reperfusion therapy (Primary PCI or Thrombolysis) for Acute STEMI cases within the time frame. The median door to balloon time is less than 90 min.

3. Provides a standardized diagnostic and treatment for effective evaluation and management of patients presenting with Acute Chest pain.

4. Provides specialized care for cardiac arrest, all type of life threatening arrhythmias, acute coronary syndrome, complete heart block, acute and chronic heart failure, acute aortic dissection, pericardial tamponade, Pulmonary embolism, Hypertensive care and other cardiac emergencies.

Our emergency services tackle not only cardiac patients but also other medical emergencies like Acute exacerbation of COPD, Cerebrovascular event etc.

5. Emergency service at SGHNC has total of 18 bed with separate resuscitation room and observation room equipped with cardiac and Spo2 probes, O2 delivery system, suction, defibrillator etc. emergency cardiac trolley with all tools and medication for resuscitation. The ER room has its own portable echocardiography machine which plays key role in the evaluation of patient.

Emergency duty personals both Doctors and Nursing staff are highly skilled and

trained in all emergency cardiac care and about ACLS protocol. There are 24 hours on duty medical officers, Senior resident, Registrar cardiology and standby on call cardiologist. They are always ready to provide best emergency services for the needful. Despite the increasing burden of patients at emergency service of SGNHC with average of more than 50 patients per day, the quality of care toward the patient hasn't been compromised. In the year 2019

we will start to provide service from the new building. It will have 30 beds with added facility to serve the growing need of service.

## CONCLUSION

The emergency services at SGNHC is playing a vital role in the management of cardiac patients with service provided by highly skilled and dedicated team.

Table 1: ER attendance in the year 2018

| Male   | Female  | Admission | Discharge | Referred | Lama  | Mortality | DOR   | Total  |
|--------|---------|-----------|-----------|----------|-------|-----------|-------|--------|
| 9686   | 7747    | 5492      | 9767      | 1746     | 178   | 52        | 198   | 17,433 |
| 55.55% | 44.45 % | 31.50 %   | 56.02 %   | 10 %     | 1.02% | 0.2%      | 1.1 % | 100 %  |

Table 2: Provisional/Clinical Diagnosis

| Pff• ff              | c wz  | ez xz v•z |
|----------------------|-------|-----------|
| U z z ff             | 9C99  | 874       |
| Mk z O v h y z .MOh/ | 9778  | 7C9       |
| hi Rb V              | 7EAE  | 7747      |
| c hi Rb V            | ABA   | 98        |
| j vwfz Mc T V M      | AD    | 99        |
| g UP 5k UP           | 7CCD  | 764       |
| c zxff x OTh vff     | 7: 79 | D7        |
| Ov yff v Th          | 7978  | CA        |
| M Th Th ff           | 7797  | B4        |
| O •z fvfUzv yffzv z  | 7EB   | 74        |
| ez fkv yfftyffzv z   | 77D   | 6B        |
| kv x fv yffzv z      | BD    | 69        |
| Oz zw v x fv Mxzfz   | 8BA   | 74A       |
| MeP                  | BA8   | 9C        |
| M ff yff yz          | D9C   | : 4       |
| Od eP                | DBC   | A         |
| d Th                 | 7E86  | 77        |



## MEDICAL WARD

P 4Nfzfi Nv ffv2P 4hTh zz c vfi 2P 4Y ffThv OTu y v MyTffiv fEP 4Mv Y v nvyv 2P 4h Nv z

### INTRODUCTION

Medical Ward in Shahid Gangalal National Heart Centre has been on continuous expansion since its establishment keeping parallel with the increased flow of patients from all over Nepal. Its further expansion with increased number of beds is inevitable in near future with the nearly completed new building getting ready to operate. Medical wards receive patients via direct admissions from OPD, Emergency department, Pre-cath and also serves as a step-down unit from critical care unit (CCU) and Intensive Care Unit (ICU). As our hospital is the tertiary referral center for cardiac patients, medical wards are also constantly re-innovated and upgraded facilities to secure optimal and highest quality services to patients.

The respective unit doctors, resident doctors, registrar cardiologist allocated for the 24- hour duty and nursing staffs provide services to patient all round the clock.

Currently, medical wards have a total capacity of 97 beds with 18 in General Ward, 16 in New Medical Ward, 18 in Annex Ward, 14 in Chest Pain Ward, 11 in Double Cabin, 20 in Single cabin.

### DISEASE DISTRIBUTION

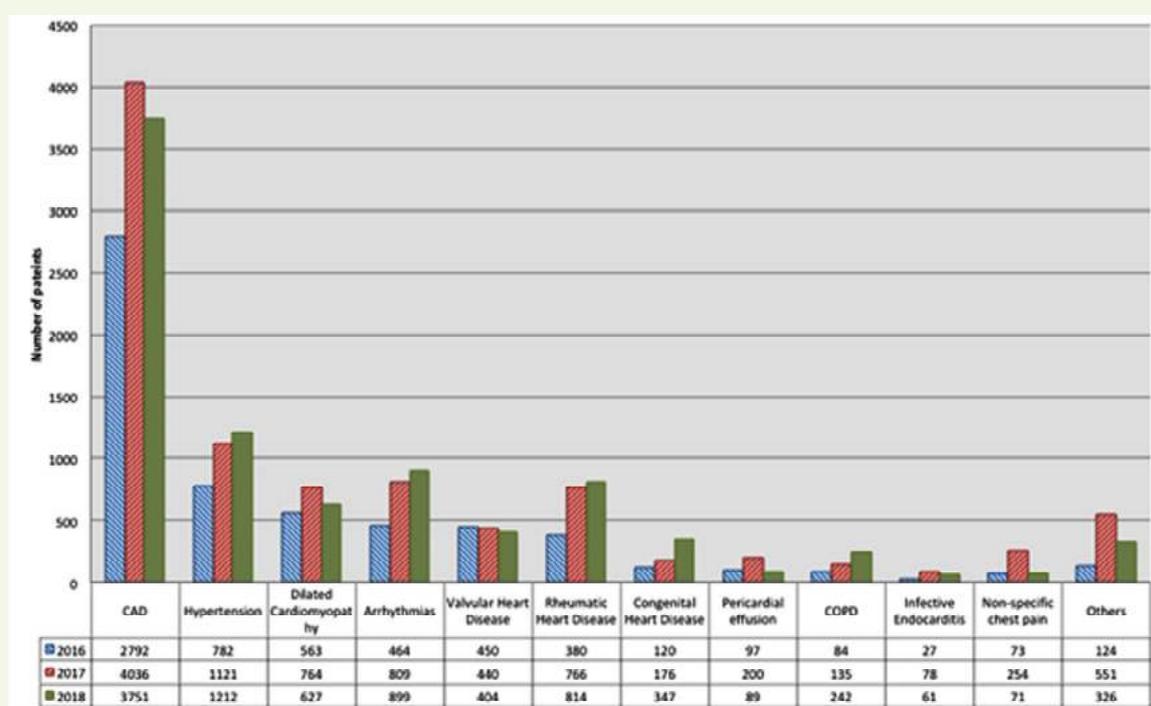
For Analysis, the patients admitted in Medical Wards were categorized having either Coronary Artery Disease (CAD), Valvular Heart Disease (VHD), Rheumatic Heart Disease (RHD), Dilated Cardiomyopathy (DCM), Chronic Obstructive Pulmonary Disease (COPD), Pericardial Effusion, Infective Endocarditis (IE), Non-Specific Chest Pain and Others. The disease prevalence among patients admitted in medical wards is shown below.

### CONCLUSION

Coronary Artery Disease (CAD) was the most prevalent disease amongst the patient that has been admitted in Medical wards in year 2018 which accounted for 42.41% of total medical ward cases followed by Hypertension (13.70%), Arrhythmias (10.16%). The trend is slightly different than 2017 where arrhythmias percentage has increased from 8% in 2017 to more than 10% in 2018. Other details is illustrated below on table.

## DISEASES WISE DISTRIBUTION OF CASES IN THE YEAR 2016

| S. No. | Name of Diseases         | No. of cases |        |       | % of Total |
|--------|--------------------------|--------------|--------|-------|------------|
|        |                          | Male         | Female | Total |            |
| 1      | Coronary Artery Disease  | 2500         | 1251   | 3751  | 42.41      |
| 2      | Hypertension             | 771          | 441    | 1212  | 13.70      |
| 3      | Dilated Cardiomyopathy   | 402          | 225    | 627   | 7.09       |
| 4      | Arrhythmias              | 466          | 433    | 899   | 10.16      |
| 5      | Valvular Heart Disease   | 198          | 206    | 404   | 4.56       |
| 6      | Rheumatic Heart Disease  | 349          | 465    | 814   | 9.20       |
| 7      | Congenital Heart Disease | 173          | 174    | 347   | 3.92       |
| 8      | Pericardial Effusion     | 47           | 42     | 89    | 1.00       |
| 9      | COPD                     | 153          | 89     | 242   | 2.73       |
| 10     | Infective Endocarditis   | 31           | 30     | 61    | 0.68       |
| 11     | Non Specific Chest Pain  | 40           | 31     | 71    | 0.80       |
| 12     | Others                   | 180          | 146    | 326   | 3.68       |





## DEPARTMENT OF CARDIAC REHABILITATION AND HEALTH PROMOTION

e Thv c z v z2hhc 2Nff fv i v vfiv 2hhc

### INTRODUCTION

Department Cardiac rehabilitation is an important program for anyone recovering from a heart attack, heart failure, or other heart problem. Cardiac Rehabilitation and Health Promotion (CRAHP) department is one of the very important department at Shahid Gangalal National Heart Center, performing a vital role in primary and secondary prevention of cardiovascular diseases. Cardiac rehab includes; physical activity, education about healthy living, including healthy eating, taking medicine as prescribed, quit smoking and counseling to find ways to relieve stress and improve mental health.

Cardiac rehab can have many benefits to your health in both the short and long-term, including:

- Strengthening heart and body after a heart attack.

- Relieving symptoms of heart problems, such as chest pain.
- Building healthier habits, including getting more physical activity, quitting smoking, and eating a heart-healthy diet. A counselor may work with patient to help limit foods with unhealthy fats and eat more fruits and vegetables that are high in vitamins, minerals, and fibers.
- Reducing stress.
- Improving your mood. People are more likely to feel depressed after a heart attack. Cardiac rehab can help prevent and lessen depression.
- Increasing your energy and strength, making daily activities easier, such as carrying groceries and climbing stairs.
- Making you more likely to take your prescribed medicines that help lower your risk for future heart problems.

- Preventing future heart problems and death. Studies have found that cardiac rehab decreases the chances to die within five years following a heart attack or bypass surgery by around 20% to 30%.

Our program is designed to help anyone with heart disease through a combination of tailored and supervised exercise plans, nutrition counseling, and health education aimed at increasing cardiac endurance and reducing future complications.

We conduct free cardiac camps, community awareness programs, and distribution of health education materials for the prevention of cardiovascular diseases. In other hand we provide regular counseling services to the patients indoor and outdoor about disease process, planned intervention and life style modification. We have been conducting structured education program for the patients and their visitors who are suffering from coronary artery diseases, its risk factors, rheumatic fever and rheumatic heart disease.

## PROGRESS REPORT

### FREE CARDIAC CAMPS

| SN           | Place              | Date               | Total participants | Total ECHO  | Total ECG   |
|--------------|--------------------|--------------------|--------------------|-------------|-------------|
| 1            | Lahan, Siraha      | Feb 24, 2018       | 350                | 185         | 171         |
| 2            | Dhangadi, Kailali  | March 10, 2018     | 946                | 167         | 244         |
| 3            | Dachhi, Kageshwori | March 10, 2018     | 168                | -           | 120         |
| 4            | Nawalparasi        | March 24, 2018     | 556                | 246         | 131         |
| 5            | Madi, Chitwan      | April 3, 2018      | 300                | 107         | 168         |
| 6            | Bhirchwok, Kaski   | April 13, 2018     | 200                | 107         | 150         |
| 7            | Ilam               | April 22, 23, 2018 | 1100               | 552         | 446         |
| 8            | Balewa, Baglung    | April 26, 2018     | 500                | 210         | 200         |
| 9            | Baglung Bazar      | May 1, 2018        | 600                | 296         | 143         |
| 10           | Simara             | May 26, 2018       | 440                | 181         | 206         |
| 11           | Hansapur, Dang     | June 22, 23, 2018  | 600                | 232         | 400         |
| 12           | Kathmandu          | July 31, 2018      | 157                | 135         | 127         |
| 13           | Beni, Myagdi       | Oct 4, 2018        | 596                | 329         | 246         |
| 14           | Kalinchwok         | Dec 15, 2018       | 350                | 139         | 190         |
| 15           | Rupandehi          | Dec 22, 2018       | 450                | 196         | 160         |
| <b>Total</b> |                    |                    | <b>7313</b>        | <b>3082</b> | <b>3102</b> |

In the year 2018, we conducted fifteen free cardiac camps for the purpose of screening cardiac diseases in different districts of Nepal. During these screening programs we had received 7313 participants who were directly benefited by these camps. During these camps 3102 Electrocardiography and 3082 Echocardiography were done.



## INDOOR COUNSELING

Counseling service is one of the regular services in our hospital that is provided to the admitted patients especially focused on pre discharged patients. During counseling we noted their queries and counseled about disease condition, life style modification and advise them about the exercise according to their health condition. In the year 2018 we counseled 4576 Patients and their visitors individually. And also encouraged the patients to join the structured education program in order to deliver more detailed education for them.

## OUTDOOR COUNSELING

Our department runs outdoor counseling service since February 2013. It targets educating patients and visitors who attends outpatient department. Hypertension, Diabetes and Dyslipidemia are the most common topic we counsel for, followed by Heart Attack, Valvular Heart Diseases, Congenital heart diseases, Heart failure, etc. In the year 2018, we counseled 7287 patients and their family members.

## STRUCTURED EDUCATION PROGRAM (SEP)

Structured Education Program is our ongoing weekly awareness program. It is designed for patient with coronary artery disease (CAD), its risk factors and Rheumatic Fever/Rheumatic Heart Disease. It runs for nine weeks in different topics. Its objective is to prevent and manage CVD and Rheumatic Heart Disease. Benefits of



this program can include reduced cardiac symptoms, better long-term survival, weight loss, improved cholesterol levels, blood pressure, blood sugar levels in diabetics and reduced stress. One cycle of program consists of nine different classes. We have been running 38th cycle till last of December 2018. In this program total number of 1894 participants directly benefited within this year.

## HEALTH EDUCATION MATERIAL PRODUCTION

Our department has been serving as a resource center for health education materials. We have produced plenty of brochures, posters, pamphlets, book and power point presentations. It provides free access of these materials for patients, health care providers and other institutions.

## CELEBRATIONS OF SPECIAL DAYS



Every year we celebrate World Hypertension Day and World Heart Day. In World Hypertension Day, we conducted free blood pressure screening and counseling service from 10th May to 17th May (one week) in Shahid Gangalal National Heart Centre premises. The theme for World Hypertension Day was “Know Your Numbers “with a goal of increasing high blood pressure (BP) awareness in all populations around the world. We Screened 1857 participant’s blood pressure and counseled them according to their numbers. Among them below table shows the classification of blood pressure of participants.

Table 1: Classification of Blood Pressure according to JNC-7

| hc | Ofv ff xv ff -<br>Nft ye z z | S z z x | ez xz 3<br>v•z |
|----|------------------------------|---------|----------------|
| 7  | c vft                        | AAB     | 8E4E           |
| 8  | e z U z z ff                 | BA      | 9A88           |
| 9  | h v•z VUi c                  | : 97    | 8946           |
| :  | h v•z WUi c                  | 87B     | 774B           |
|    |                              |         |                |



This year also our organization celebrated World Heart Day with associated of Nepal Heart Net. Nepal Heart Net is only one network where there are 22 joined organizations in same platform to make public awareness and encourage. Shahid Gangalal National Heart Center had organized a Prabhatpheri and formal program to raise awareness and encourage the individual, families, community, government to take action for CVD Prevention and health promotion.

## COMMUNITY AWARENESS PROGRAM

It is a community based awareness program. In 2018 we had conducted 3 programs, at Siraha, Century Bank, Putalisadak and Gamcha, Bhaktapur.

## RADIO PROGRAM

There is regularly broadcasting of Public Service Announcement (PSA) about hypertension, heart attack, rheumatic heart disease and seven rules of healthy heart in Radio Sagarmatha.

## HUMAN RESOURCE

|                   |                           |
|-------------------|---------------------------|
| P n wg vff a ff w | Ud P 50 ftv Ov yff ft •ff |
| P h Th fff v v    | h 4e Th ff Th v ff        |
| e Thv c z v z     | h 4h v c z                |
| Nff ffv i v vfv   | h 4h v c z                |
| nv Thyv a ffzft   | h 4e Th ff Th v M ff v    |
| g vff Y v nvyv    | e Th ff Th v M ff v       |



## PATHOLOGY/CLINICAL LABORATORY SERVICES

Mr. Bindeshwar Prasad Yadav

### INTRODUCTION

Laboratories in Nepal today face increasing pressure to automate their system as they are challenged by a continuing increase in workload, need to reduce expenditure and difficulties in recruitment of experienced technical staff. The implementation of a laboratory automation system in the Clinicallabs rely on minimizing laboratory errors, staff satisfaction and the outcome of the end result. Considerable effort is needed to overcome the initial difficulties associated with adjusting to a new system, new software, new working procedure.

### PRESENT CONTEXT

With the increasing charm in automation at present department is equipped with following equipments:

1. Automated Five Parts and three parts Differential Cell Counter.

2. Fully automation biochemistry machine. 480 test per hour.
3. Fully automated coagulation machine.
4. Separate Blood bank.

### OVERVIEW

The Following details of the responsibilities of clinical laboratory:

- Hematology works with whole blood to do full blood counts and blood films as well as many other specialised tests.
- Coagulation requires citrated blood samples to analyze blood clotting times and coagulation factors.
- Clinical Biochemistry usually receives serum or plasma. They test the serum for chemicals present in blood. These include a wide array of substances, such as lipids, blood sugar, enzymes, and hormones.
- Microbiology receives clinical

specimen including swabs, feces, urine, blood, sputum, cerebrospinal fluid, synovial fluid, as well as possible infected tissue. The work here is mainly concerned with cultures, to look for suspected pathogens which, if found, are further identified based on biochemical tests. Also, sensitivity testing is carried out to determine whether the pathogen is sensitive or resistant to a suggested medicine. Results are reported with the identified organisms and the type and amount of drugs that should be prescribed for the patient.

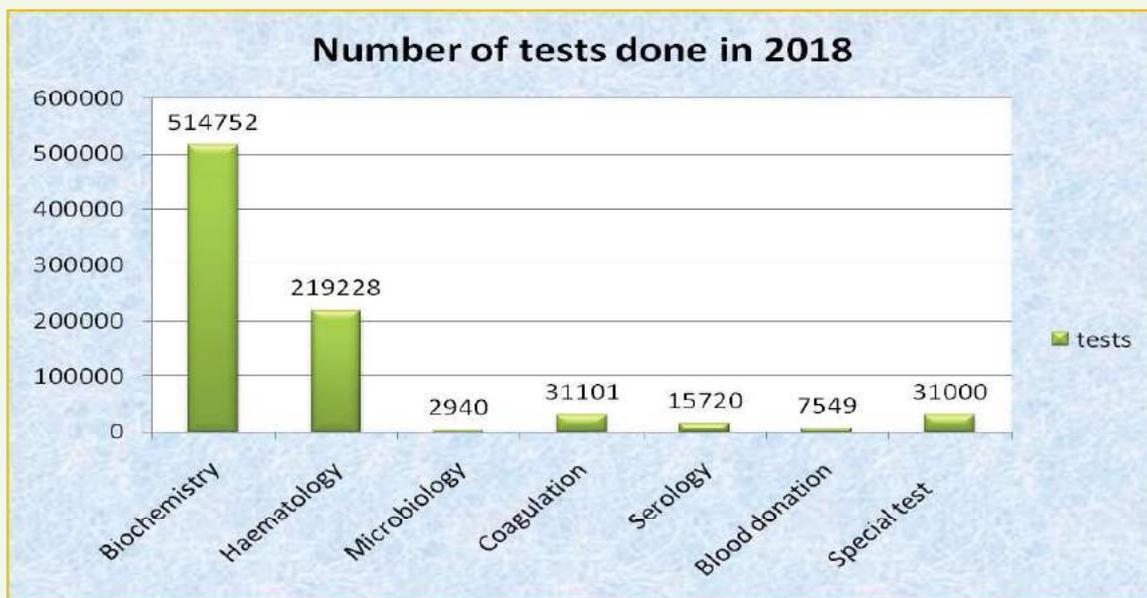
- Parasitology is a microbiology unit that investigates parasites. However, blood, urine, sputum, and other samples may also contain parasites.
- Virology is concerned with identification of viruses in specimens such as blood, urine, and cerebrospinal fluid.
- Immunology/Serology uses the concept of antigen-antibody interaction as a diagnostic tool.
- Blood bank determines blood groups, and performs compatibility testing on donor blood and recipients. It also prepares blood components, derivatives, and products for transfusion.

## MORE ACHIEVEMENTS

- Automation upgraded in biochemistry.
- Quality control analysis in biochemistry.
- Quality control analysis in Haematology.
- Quality control analysis in Coagulation.
- Quality control to all the analyzers.
- Running biorad controls (Eques) for biochemistry haematology, coagulation, immunology.
- Automated report printing for all departments.
- Introducing Laboratory information system to the hospital information system along with electronic reporting system.
- Backtac in microbiology for blood culture.

## FUTURE PLAN

- Automation in the microbiology in detection and isolation.
- To start Histopathology, Cytopatology and Bone marrow studies.
- Separate emergency, IPD, Lab.





## RADIOLOGY SERVICES

*Baidyanath Yadav*

Radiology is the key diagnostic tool for many diseases and has an important role in monitoring treatment and predicting outcome. It is an integral part of the health care delivery system.

### SERVICE PROVIDED

The radiology department of Shahid Gangalal National Heart Centre has been providing radiological services, amongst others since its establishment. Its services include all kinds of general radiography, ultrasonography, vascular doppler study and CATH lab services. A state-of-art 320 multi detector CT scan was introduced in May 2018 for the very first time in Nepal. This has greatly enhanced ability to diagnose Coronary artery disease, other vascular and non-cardiac abnormalities which has led to tremendous improvement in patient care. Some commonly performed diagnosis are CT coronary angiogram, CT pulmonary angiogram, aortogram, chest CT, pediatric

cardiac CT and head CT amongst others. Total of 1,463 CT has been performed in 2018 including 551 Coronary CT.

Total of 63,290 X-rays were done on 2018, which accounts for 180 patients per day in an average from OPD and 70 cases per day from IPD radiology unit. Total of 2,134USG were performed during this period including sonography of abdomen, chest, neck, small parts as well as vascular doppler. The radiology unit provides 24/7 imaging services and reports are provided in shortest possible time.

Recently Cath lab has been scaled up to four state-of-the-art Cath Labs (Two Philips Integris, one Siemens and one Toshiba). Experts are providing services in Cath lab for both diagnostic and therapeutic interventional procedure such as CAG, PTCA, PTMC, BPV, BAV, TPI, PPI, DEVICE CLOSURE, EPS, PAG and RHC.

## EQUIPMENT

We recognize the importance of staying on top of the latest medical advancement and use the very latest radiology equipment. The department is equipped with various recent and hi-tech radio diagnostic modalities which include:

1. One MDCT (320 detectors CT) Toshiba, Japan
2. One set DDR System (Prognosys Medical system)
3. Three CR reader units (Konica Minolta, Japan)
4. Three Dry Laser Imagers (Konica Minolta and Fuji, Japan)
5. One fixed 500 mA X ray machine (Quantum medical imaging, USA)
6. Three mobile X-ray machines (160 mA, 300 mA and 400mA)
7. One state-of-the-art USG machine (Affinity 70, Philips medical System).

## HUMAN RESOURCES

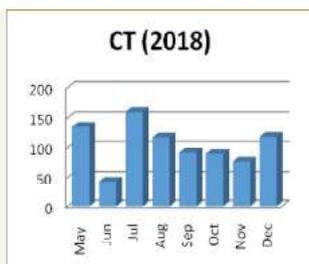
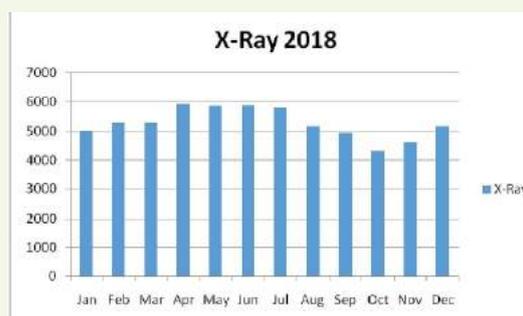
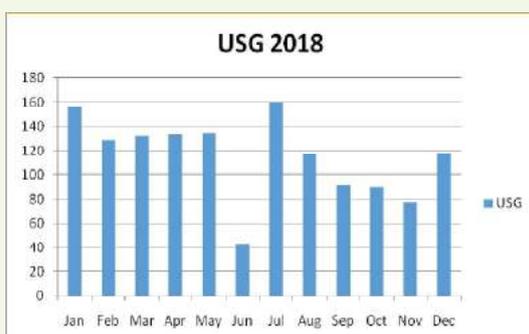
The radiology unit of SGNHC is resourced with well-trained board certified manpower. We have two radiologists, two Sr. radiography-technologists, two technologists, four Sr. radiographers and ten radiographers.

## RADIATION SAFETY MEASURES

We strive to create the safest environment for our patient by implementing technology that significantly reduces radiation exposure to patient as well as staffs. All means of radiation protection especially in Cath lab and during portable radiography are practiced. The general principle of radiation protection i.e. optimization, justification of practice and ALARA (As Low As Reasonably Achievable) as well as Cardinal principle of radiation protection i.e. TDS (time of exposure as short as possible, distance as far as possible and Proper shielding) are always followed. All the radiation workers are provided with TLD (Thermo-luminescence Dosimeter) that are periodically processed, and dosage are evaluated with Dose limit recommended by ICRP (International Commission on radiation Protection).

## CONCLUSION

Radiology services here are fully dedicated to provide quality radiographic, CT and ultra-sonographic and Cath services. SGNHC is also planning to further improve its imaging services with cardiac MRI in its near future.





## PHARMACY SERVICES

Aatmaram Timalcina

Hospital pharmacy usually stocks a larger range of medications, including more specialized and investigational medications. It also provides drug information and drug monitoring services. It exerts a great deal of influence on the professional stature of the hospital as well as upon the economics of the total operational cost of the institution because of its inter-relation with and the inter-dependency of other services upon it. Apart from these, the practice of pharmacy in hospital setting also includes broad responsibility for safe and appropriate use of drugs in patients, including rational drug selection, monitoring, dosing and control of patient's overall drug-therapy.

Shahid Gangalal National Heart Centre has its own hospital pharmacy. All most every medicine and surgical products required in hospital are available in the pharmacy. It has indoor, ward supply and outdoor pharmacy dispensing unit for the servicing facility to patients where medicines are dispensed with sufficient counseling. Medicines are dispensed to patients by registered pharmacists and pharmacy assistants in accordance with prescriptions.

### WORKING HOURS

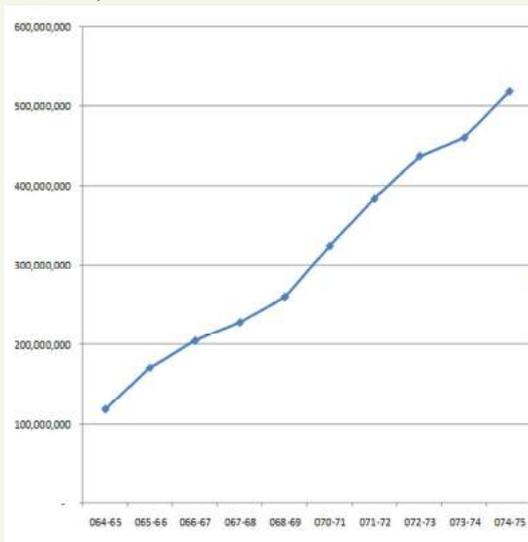
1. Indoor Pharmacy: 24 hours
2. Outdoor pharmacy: 12 hours
3. Store and ward supply pharmacy: 8 hours

### ACTIVITIES PERFORMED IN HOSPITAL PHARMACY

- a) Purchasing – contracting, ordering and receiving
- b) Ware housing- storage and restocking
- c) Housekeeping:
  - 1) Inventory management
  - 2) Rotation, return and recall
- d) Distribution
- e) Dispensing and drug counseling
- f) Record keeping
- g) Conveying information of medicines to other healthcare professionals and Administration

## Pharmacy Report

The Transaction from hospital Pharmacy is increasing every year. So, hospital is in benefit from the Pharmacy. As compared to previous years, the transaction has increased as shown in the diagram below. (Transaction has been mentioned in amount)



## FUTURE PLAN

- a) Initiate therapeutic monitoring of drugs having narrow therapeutic index and inter-pharmacokinetic variables.
- b) Establishment of drug information centre.
- c) Initiate drug and cost related research activities.
- d) Drug counseling.
- e) Floor stock system.
- f) Initiate drug interaction surveillance program and implementation to reduce harms associated with it.
- g) Actively participate in infection prevention and antibiotic stewardship program.
- h) Initiate inpatient unit dose distribution system.
- i) Establishment of pharmaceutical care, pharmacovigilance and their implementation



## PHYSIOTHERAPY SERVICES

Dr. Shaili Thapa (PT), Yashoda Luitel, Rajiv Kumar Yadav

### INTRODUCTION

Physiotherapy unit has completed eighteen years of service at SGNHC. Being a scientific physical procedure physiotherapy treatments are designed to treat the patients with disease, injury or disability to achieve and maintain functional rehabilitation and to prevent malfunction or deformity. Physiotherapy unit is an integral part of Cardiac Rehabilitation and Health Promotion Department. It is spacious, well equipped and located on the ground floor room no.34. It plays vital role in prevention and management of cardiac disease. SGNHC is the only national center which is running cardiac rehabilitation exercise program in physiotherapy unit. It also provides services to various medical and surgical conditions which required physiotherapy treatment.

### HUMAN RESOURCES

At present our unit has one senior physiotherapist, one senior physiotherapy assistant and one physiotherapy assistant. We hope to add further on it to cope with the load in future.

### SERVICE PROVIDED

Physiotherapy unit at SGNHC mostly deals with the function of the cardio-pulmonary and vascular system along with non cardiac physiotherapy services.

It provides both in-patient and out-patient services regularly six days a week. This unit has been running cardiac rehabilitation exercise program where it gives exercise prescription to the patients with cardiac diseases. It has extended various programs like fitness program for staff, fitness program for patients with hypertension,

obesity, dyslipidemia and diabetes mellitus via cardiac rehabilitation program. This year around 8993 patients have been benefitted by physiotherapy treatment. The cardiac rehabilitation program has also been effective.

## OTHER ACTIVITIES

Physiotherapy unit have been conducting the Tuesday classes about the importance and benefits of the exercises for the patients and their visitors under Structured education program (SEP) for coronary artery disease regularly since 2012 under cardiac rehabilitation program, which have been a knowledgeable and very useful.

### STATISTICAL DATA OF THE YEAR 2018 (2074/ 2075 B.S)

| Months and year                        | Number of In-patients | Number of Out-Patients |
|--|-----------------------|------------------------|
| JANUARY-2018<br>(Poush-Magh 2074)      | 941                   | 16                     |
| FEBURARY-2018<br>(Magh-Falgun 2074)    | 784                   | 42                     |
| MARCH-2018 (Falgun-Chaitra 2074)       | 747                   | 38                     |
| APRIL-2018 (Chaitra-Baisakh2074/75)    | 797                   | 15                     |
| MAY-2018 (Baisakh-Jestha 2075)         | 746                   | 88                     |
| JUNE-2018 (Jestha-Ashad 2075)          | 763                   | 42                     |
| JULY-2018 (Ashad-Shrawn 2075)          | 720                   | 47                     |
| AUGUST-2018<br>(Shrawn-Bhadra 2075)    | 737                   | 43                     |
| SEPTEMBER-2018<br>(Bhadra-Ashoj 2075)  | 686                   | 11                     |
| OCTOBER-2018<br>(Ashoj-Kartik 2075)    | 414                   | 18                     |
| NOVEMBER-2018<br>(Kartik-Mangsir 2075) | 496                   | 41                     |
| DECEMBER-2018<br>(Mangsir-Poush 2075)  | 662                   | 39                     |
| T g M P i d i M a                      | D E 9                 | : : 6                  |

## FUTURE PLAN

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## CONCLUSION

Physiotherapy unit being an integral part of Cardiac Rehabilitation and Health Promotion Department at SGNHC gives the major contribution in prevention and management of cardiac diseases. Hence we would like to thank all the departments, units and the staffs for their constant support and encouragement. We also hope to get the more referrals in upcoming days. We would also like to thank our patients and their relatives for their cooperation and believing on us.

# ANNUAL MORTALITY: 2018

Dr Rajan Poudel, Dr Praveen Yadav, Dr Sushant Bogati, Dr Kartikesh Thakur

## INTRODUCTION

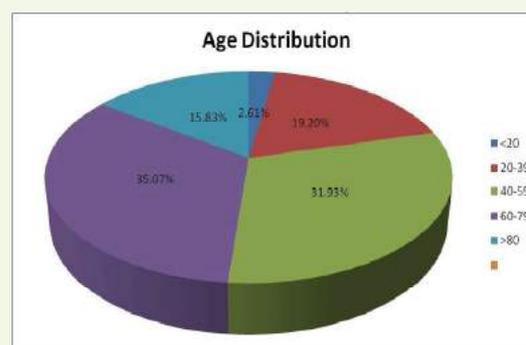
Like many low- and middle-income countries (LMICs), Nepal is battling a double burden of disease, communicable and non-communicable diseases (NCDs), with cardiovascular diseases (CVDs) being the most common among the latter. CVDs have been recognized as a major public health issue in Nepal. The disease burden is projected to rise in parallel with increase in prevalent risk factors, life expectancy, and socio-economic transitions. Shahid Gangalal National Heart Center (SGNHC) is a national referral center for cardiology and cardiac surgery, and has been playing a major role in minimizing the burden of heart disease in the country. Annual mortality reports are part of self audit as part of robust quality management and improvement system. The mortality findings facilitate retrospective reflections and assessment of hospital performance, for quality improvement efforts.

## RESULTS

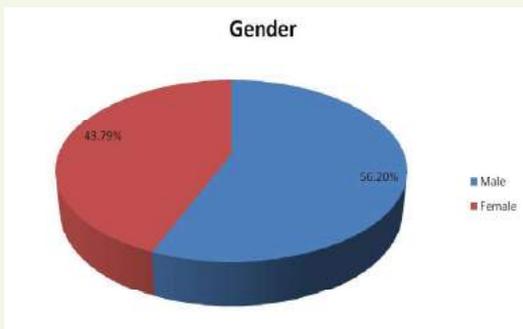
A total of 21,864 patients were managed under a total of 27,488 patients were managed under adult cardiology services

at this hospital and out of which 312 died (1.13%). Patterns of mortality in the admitted population are influenced by a number of important factors as follows:

**Age:** The relationship between age and mortality demonstrated the expected trend: the younger age groups had the lowest rates of death and the mortality rate increased with age. As shown in Figure 1, the most number of deaths was noted in age group 60-79 years followed by age group 40-59 years. This finding is consistent with previous year's mortality rate by age data.



**Gender:** Mortality by gender closely resembled the gender distribution of the admitted population. Among who died 56.20% were male and 43.79% were female. (Figure 2)



**Level of care:** There are substantial differences in mortality between the different levels of care. Mortality rates are highest for critically ill patients in intensive care units such as CCU (9.48%), MICU (16.89%), and as expected, the mortality rates are lower in patients admitted in Annex (0.14%), Double Cabin (0.11%), GWA (0.38%) and NMW (0.77%). Emergency, a place where patients undergo triage and immediate care and transfer to appropriate ward, had Mortality of 0.26% (Table 1). Table 2 shows the number of deaths and their antecedent cause at various levels of care.

Table 1: Ward-wise mortality

| Level of Care | ICU  | CCU  | Other |
|---------------|------|------|-------|
| Emergency     | AC   | ED   | 7BAE  |
| Annex         | 7A 6 | 7: B | E4 D  |
| Double Cabin  | DAE  | 9    | 69:   |
| GWA           | 777: | 6    | 6     |
| NMW           | DB9  | 7    | 647   |
| ICU           | 78D  | A    | 69D   |
| CCU           | 77BA | E    | 64C   |
| MICU          | 799A | 8    | 64:   |
| Mortality     | 7DCA | A6   | 64B   |

**Cause specific mortality:** The causes of death are noted in Table 2. Acute Coronary Syndrome complicated with - Cardiogenic Shock / heart failure or arrhythmias was the leading cause of mortality. RHD with Heart Failure, DCM with heart failure, Ischemic Cardiomyopathy, VHD, COPD with Respiratory Failure, Sepsis were also

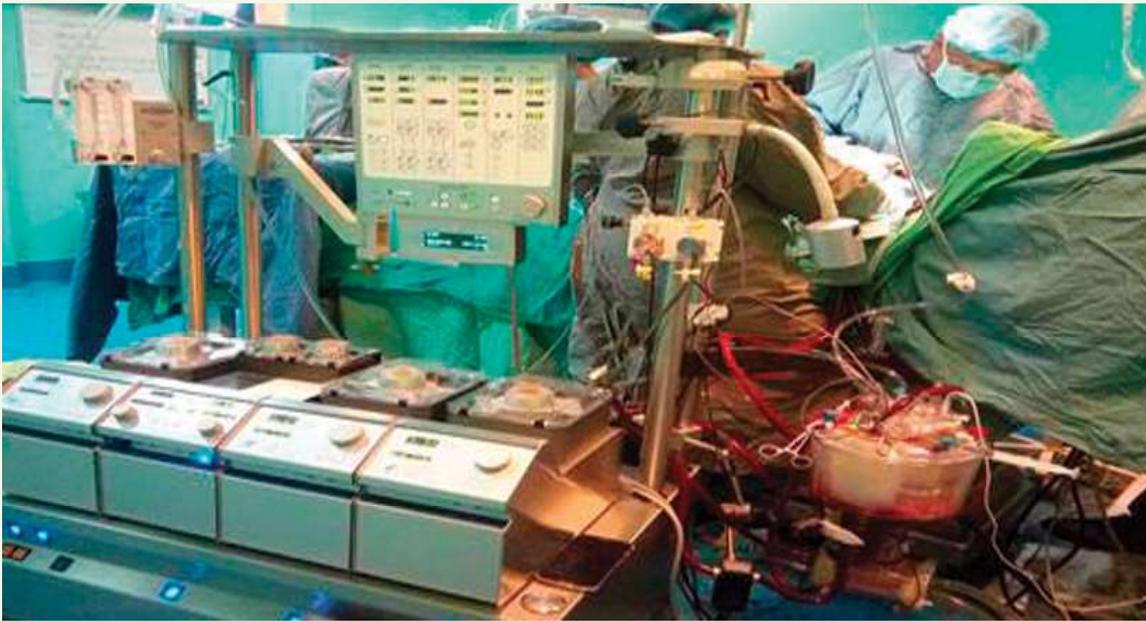
among the leading cause of death in the year 2018 AD.

Table 2: Mortality ward-wise

| ICU          | CCU  | Other |
|--------------|------|-------|
| Emergency    | 7: 8 | : 4A  |
| Annex        | : 8  | 794 B |
| Double Cabin | 88   | 6A    |
| GWA          | 87   | 69    |
| NMW          | 7B   | 478   |
| ICU          | 77   | 948   |
| CCU          | 76   | 946   |
| MICU         | A    | 746   |
| Mortality    | :    | 74D   |
| Emergency    | 9    | 64EB  |
| Annex        | 8    | 64B:  |
| Double Cabin | 8    | 64B:  |
| GWA          | 8    | 64B:  |
| NMW          | 7    | 648   |
| ICU          | 7    | 648   |
| CCU          | 7    | 648   |
| MICU         | 8A   | D67   |

## CONCLUSION

trends in mortality are influenced by a number of important factors. Rates of mortality show a linear correlation with advancing age: the younger age groups have the lowest rates of death and the mortality rate increases with age, highest in 6-8th decade of life. There are substantial gender differences in absolute number of mortality with higher percentage of mortality among the male gender. The leading cause of death was Acute Coronary Syndrome. Absolute deaths in the year 2018 reflects the increase in patient volume, where as the mortality rate (1.13% in 2018 vs 1.28% in 2017) has been declining and we anticipate further decline with appropriate action and strategic planning to further improve the mortality indices of our institute.



## PERFUSION TECHNOLOGY SERVICES

Mr. Mahendra Bhatta, Mr. Umesh Khan, Ms. Lalita Shakya, Mrs. Laxmi Shrestha

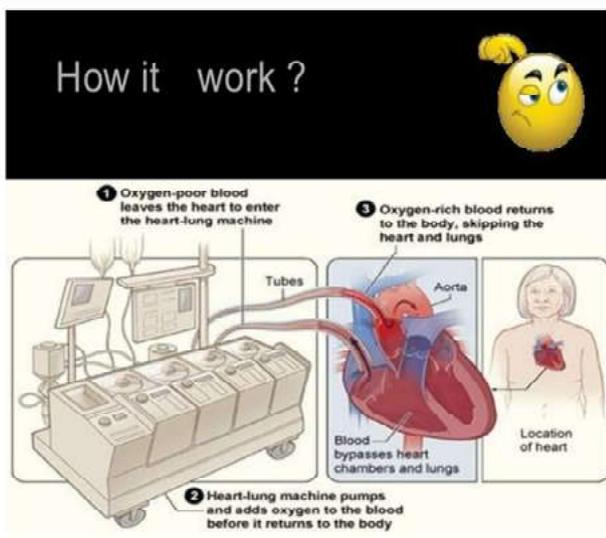
### INTRODUCTION

Before the era of modern medicine, attempting any surgical intervention on the human heart was like a taboo as the heart was considered the “soul of life”. However, it became a reality with the development of therapeutic procedures such as the use of cardiopulmonary bypass (CPB) through extracorporeal circulation. The operators of CPB in the 1950s and early 1960s were often laboratory personnel or physician. Nowadays they are known as Perfusionist, also known as a Clinical Perfusionist, Cardiovascular Perfusionist, Clinical Perfusion Scientist, or Medical Perfusionist.

Perfusionist forms the part of cardiothoracic surgical team which includes Cardiac Surgeons, Anesthesiologists and Cardiac Nurse. Using the device called Heart-Lung Machine, the Perfusionist shares responsibility with the cardiac surgeon and anesthesiologist for the management

of circulatory and respiratory functions, meeting physiological and metabolic needs of the cardiac surgical patient so that the surgeon can focus on the actual surgical procedure on an empty and arrested heart. Other responsibilities are management of the intra-aortic balloon pump, and initiation and management of extracorporeal membrane oxygenation (ECMO), as well as monitoring of anticoagulation, electrolyte, acid-base balance and blood-gas composition. Also, Perfusionist are a key personnel in placing and managing patients on Ventricular Assist Devices as a bridge to recovery or Heart Transplantation and supporting patients receiving lung or liver Transplant. Beside for the curative or staged palliative procedure of the cardiac surgical patient, Perfusionist have also a role in non cardiac case such as Isolated limb perfusion, intra-peritoneal hyperthermic chemoperfusion and tracheal resection/repair, ex vivo lung perfusion (EVLP).

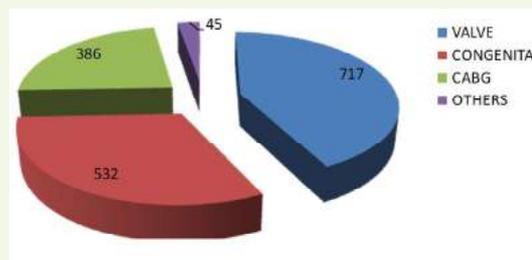
## Heart Lung Machine



The faculty is providing continuous service for operating heart lung machines for scheduled as well as Emergency cardiac surgery, managing patient with IABP for cardiac support in OT, ICU and cath lab, ECMO supports.

## SERVICES

The first successful open heart surgery done in Shahid Gangalal National Heart Centre was ASD CLOSURE in September 2, 2001. So far, we have done 15,441 cases using heart lung machine. This year we have run heart lung machine for 1680 patient. Among them, 954 were Male and 726 were Female. The number of cases was increased by 5.35 % from last year. The cases are categorized as congenital, valve, CABG and others (Modified Bentall's procedure, pericardial effusion, constrictive pericarditis, aortic aneurysm, Myxoma, rupture sinus of valsalva, pulmonary embolism.)



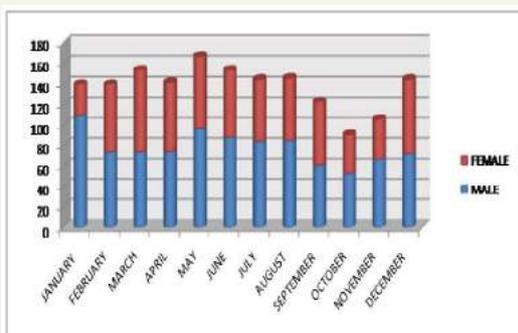
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## OTHER ACTIVITIES

Among 7 members in the perfusion unit 1 is in study leave, 2 are in training phase. Training is given in OT and CME program of the hospital is conducted in regular basis.

Also, 2 days ECMO workshop and CME was attended by 2 staff in Aster CMI Hospital, Banglore. Beside that, 1 Senior staff attended for Paediatric Cardiac perfusion training in Seoul National University Hospital (SNUH), Korea for 6 weeks.

Their numbers are showed in figure.



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# INSTITUTIONAL REVIEW COMMITTEE

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## BACKGROUND

Two years have already elapsed since the establishment of Institutional Review Committee (IRC) of Shahid Gangalal National Heart Centre (SGNHC). The researches being conducted in SGNHC is properly coordinated and monitored after the establishment of IRC.

## OBJECTIVES

- To ensure that all studies conducted within SGNHC in ethical manner.
- To ensure consistency in the supervision and monitoring of health researches.
- To protect rights of human and animal involved in the research
- To regulate and monitor publication of research work in SGNHC

## Board members of IRC

|  |                  |
|--|------------------|
| Dr Deewakar Sharma (Prof/Senior Consultant Cardiologist) | Chairman         |
| Dr Sujeeb Rajbandari (Senior Consultant Cardiologist)    | Member Secretary |
| Dr Siddhartha Pradhan (Consultant Cardiac Surgeon)       | Member           |
| Dr Chandra Mani Adhikari (Cardiologist)                  | Member           |
| Dr Dipankar Prajapati (Cardiologist)                     | Member           |
| Mr. Bidur Khadka   | Member           |
| Ms. Binita Tamrakar Khadka (Sr. Staff Nurse)             | Office Secretary |

## IRC has received in total 38 proposals in 2017 to 2018

|  |    |
|--|----|
| PhD Thesis Proposal                            | 3  |
| Master Thesis Proposal                         | 4  |
| Bachelor Thesis Proposal                       | 9  |
| Total proposal approved in year (2017 to 2018) | 28 |
| Total Proposal proceed in year (2017 to 2018)  | 38 |

### List of Approved research proposals (2017 to 2018):

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| A  | e zx ffz y -z vftzxThxv yff • v Th ff hThThy Tv •vftfc v ff vftUzv Oz z4  |
| B  | e vx ffx -ff xz ffz ff z ff xv yffx •z v ff 4   |
| C  | e vx ffx -ffz fx yff xv ff v z vftz z fvxz z  |
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| 76 | gzfv zy -vx -Wj M ff M •d z zy Uzv h •z ev ff 2c z vft  |
| 77 | e z vfx xz -O v M z P ffzv z ff gTh v fkev ff ThTh z yz • z kvftz h •z ff ff c z vft  |
| 78 | Tft wftx •z ffz Thv -vft z.T3OUS/FM•ft wft z•ff y Thyz •v Th ff 2 xffzx fkv y xff fkvft-vx 2z ff ft•ff 2 v Th Th ff ft• 2 v v•z z 2 ww ff xv z v y x z -Thv -vft z v ff 4 |
| 79 | hTh z d x z - v ff yz • ff • z Thv •z ff hThThy Tv •vftfc v ff vftUzv xz z  |
| 7: | Mh y -b zy fkv ff MyTh z xz v y My z z P •gzvx ff e xv yffft V -v x ff ev ff 4  |
| 7A | Y fzy•z z•v yff • Wj P zffff v • z v x fffkvftxv z ff v hThThy Tv •vftfc v ff vftUzv Oz z   |
| 7B | Y fzy•z v y vx ffx z•v yff • xv yffftV -v x ff v • z ff hThThy Tv •vftfc v ff vftUzv Oz z   |
| 7C | M y w y zv • Th z fff • ff hThThy Tv •vftfc v ff 3 vftUzv Oz z  |
| 7D | h z v y O ff • -ev ff ffThO v M z P ffzv z ff zfx zy Th fvffff Yi b 4   |
| 8A | M xff ff -M fff zff N2fff fy fx v y Oz ft fv ff ff v ff ffTh vx z xv yfffff -vx ff  |
| 8B | V vx -MhP yz ffx xft z gffThv ff yff z ff 2gffTh z ffx yff z 3 ff v y - x ff  |
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| 8D | Y fzy•z v y vx ffx z•v yff • Th z xv z ff v ff ffTh vxz vfiz V fv v3 ff   |

**Contact Address and Office Location:**

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2nd Floor, Academic Block (South Wing), Shahid Gangalal National Heart Centre

Bansbari, Kathmandu, Nepal

P.O. Box: 11360

Tel: 977 – 1 – 431322 / 4370622 / 4371374 (Ext.: 620)

E mail: [ircsgnhc@gmail.com](mailto:ircsgnhc@gmail.com)

For form collection and submission please contact office secretary between 2:00 PM to 3:00

PM (Except Saturdays)

# DIABETIC AND HYPERTENSIVE RETINOPATHY SCREENING SERVICE

Niru Ratyal ,Meena K.C. Laxmi Aryal

Diabetes mellitus and Hypertension are increasing public health problem in Nepal. Diabetic retinopathy (DR) is one of the most common complication of diabetes mellitus. Despite being preventable it is the fifth leading cause of global blindness. More than 90% of blindness from diabetic retinopathy occurs in low and mid income countries. In Nepal, there is lack of awareness on DR, among diabetes patients. There are only few diabetic retinopathy screening services in the country.

DR is caused by damage to the blood vessels of the light-sensitive tissue at the back of the eye (retina). In the beginning DR may cause no symptoms or only mild vision problems. Eventually, it can cause blindness. The condition can develop patients with type 1 or type 2 diabetes. Longer the diabetes (>20yrs duration almost all people effected), uncontrolled blood sugar, concurrent hypertension, hyperlipidaemia, anaemia, kidney diseases, pregnant women and smokers are high risk factor for developing DR.

Patients won't have symptoms until they have advanced stage of diabetic retinopathy. When patients develop symptoms like poor vision, the disease is in advanced stage where good visual recovery is not possible. Timely detection of vision threatening retinopathy and treatment with retinal laser therapy helps to save the vision. Early detection of DR is possible if diabetic retinopathy screening is integrated

as comprehensive diabetes management. Retina evaluation at the time of diagnosis and at least retina check up once in a year is required for early detection.

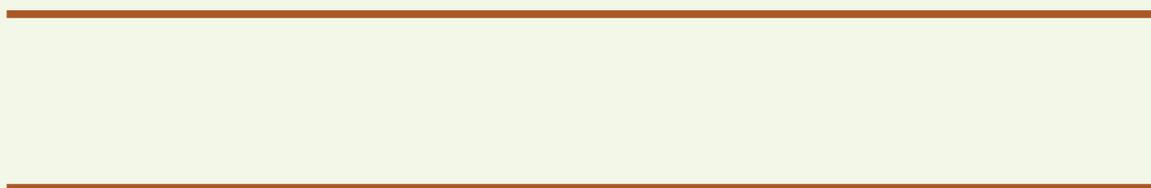
Similarly, hypertension related retinal problems are also the leading cause of blindness in Nepal. Like in diabetic retinopathy, majority of patients have no symptoms on hypertension related retinal problems until the advanced stages. Regular eye check up focused on retina evaluation at the time of diagnosis of hypertension and at least once in a year could help to detect hypertensive retinopathy. Among the various modalities of diabetic and hypertensive retinopathy screening, fundus photography is widely accepted, easy methods for detection of these retinal diseases.

The diabetic retinopathy screening service is available in Shahid Gangalal National Heart center since 2014. This service in national heart center is provided in collaboration with Tilganga Institute of Ophthalmology and supported by The Fred Hollows Foundation and World Diabetes Foundation. When the service started in 2014, 476 diabetes patients. In the year 2015; 647 diabetes patients were screened. In 2016; 568 patients with diabetes were screened. In 2017 we screened maximum number of patients (1213) in a single year. In 2018 the number has decreased to 850. Since 2017 we have started hypertensive retinopathy screening services at national

heart center premises. Almost 15% of these screened patients were found to have advanced retinopathy and required urgent management. These patients were referred to Tilganga Institute of Ophthalmology for treatment. A case of 16 yrs. old Diabetic mellitus who sought medical consultation at national heart centre for the first time was diagnosed to have severe NPDR of both eyes was referred to Tilganga Institute of Ophthalmology for treatment. This service has really helped many patients in early detection of retinopathy among hypertensive and diabetes patients. It also helped to raise awareness on diabetic and hypertensive retinopathy among the people with diabetes and hypertension.

Increasing burden of Diabetes and Hypertension in Nepal, will surely increase the number of patient with retinopathy. But the public as well as patient awareness of retinopathy is very poor. Awareness about these disease condition is very important as it is a preventable disease. This integrated retinopathy screening program can be useful in promoting awareness and in reducing blindness from diabetic and hypertensive retinopathy. Patients can get the retinopathy screening service as well as hypertension and diabetes treatment at the same time in Shahid Gangalal National Heart Center.







**DEPARTMENT OF CARDIOVASCULAR SURGERY**



**DEPARTMENT OF CARDIOLOGY**



## DEPARTMENT OF ANESTHESIOLOGY



## DEPARTMENT OF CARDIAC REHABILITATION AND HEALTH PROMOTION



**DEPARTMENT OF PEDIATRIC CARDIOLOGY**



**DEPARTMENT OF NURSING**



**DEPARTMENT OF ADMINISTRATION**



**PERFUSION TECHNOLOGY UNIT**



## PHARMACY UNIT



## PATHOLOGY UNIT



## RADIOLOGY UNIT



## JANAKPUR BRANCH

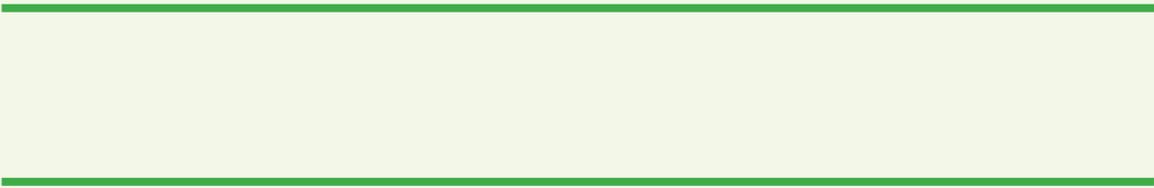
*Shahid Gangalal National Heart Centre, Bansbari, Kathmandu*



## MAINTENANCE UNIT



## TRANSPORTATION UNIT



## DEPARTMENT OF CARDIOVASCULAR SURGERY

|    | ky o                       | no tr k t                             |
|----|----------------------------|---------------------------------------|
| 7  | Dr. Apurba Thakur          | Registrar, Surgery                    |
| 8  | Dr. Arjun Baniya           | Resident Doctor                       |
| 9  | Dr. Avash Karki            | Registrar, Surgery                    |
| :  | Dr. Bishow Pokhrel         | Registrar, Surgery                    |
| A  | Dr. Dikshya Joshi          | Registrar, Surgery                    |
| B  | Dr. Jyotindra Sharma       | Sr. Consultant Cardiac Surgeon & E.D. |
| C  | Dr. Navin C Gautam         | Consultant Cardiac Surgeon            |
| D  | Dr. Nirmal Panthee         | Registrar, Surgery                    |
| E  | Dr. Nishes Basnet          | Resident Doctor                       |
| 76 | Dr. Nivesh Rajbhandari     | Registrar, Surgery                    |
| 77 | Dr. Priyanka Shah          | Resident Doctor                       |
| 78 | Dr. Rabindra Bhakta Timala | Consultant Cardiac Surgeon            |
| 79 | Dr. Ramesh Raj Koirala     | Sr. Consultant Cardiac Surgeon        |
| 7: | Dr. Rheecha Joshi          | Resident Doctor                       |
| 7A | Dr. Rupak Pradhan          | Resident Doctor                       |
| 7B | Dr. Sanchit Dhakal         | Resident Doctor                       |
| 7C | Dr. Sanjeet Kumar Shah     | Resident Doctor                       |
| 7D | Dr. Sidhartha Pradhan      | Consultant Cardiac Surgeon & HOD      |
| 7E | Dr. Yogeshor Man Singh     | Registrar, Surgery                    |
| 86 | Dr. Yuna Shrestha          | Resident Doctor                       |
| 87 | Lalita Shakya              | Perfusion Assistant                   |
| 88 | Laxmi Shrestha (Bhattarai) | Perfusion Assistant                   |
| 89 | Ram Bharosh Yadav          | Perfusion Assistant                   |
| 8: | Umesh Khan                 | Perfusionist                          |

## DEPARTMENT OF CARDIOLOGY

|    | ky o                      | no tr k t                         |
|----|---------------------------|-----------------------------------|
| 7  | Dr. Aarju Karki           | Resident Doctor                   |
| 8  | Dr. Agam Kumar Yadav      | Resident Doctor                   |
| 9  | Dr. Aishwarya Shrestha    | Resident Doctor                   |
| :  | Dr. Amrit Bogati          | Registrar, Cardiology             |
| A  | Dr. Amshu Shakya          | Resident Doctor                   |
| B  | Dr. Arun Maskey           | Sr. Consultant Cardiologist       |
| C  | Dr. Bibek Baniya          | Registrar, Cardiology             |
| D  | Dr. Binay Kumar Rauniyar  | Cardiologist                      |
| E  | Dr. Chandra Mani Adhikari | Cardiologist                      |
| 76 | Dr. Deepak Limbu          | Registrar, Cardiology             |
| 77 | Dr. Deewakar Sharma       | Sr. Consultant Cardiologist & HOD |
| 78 | Dr. Dharma Nath Yadav     | Cardiologist                      |
| 79 | Dr. Dipanker Prajapati    | Cardiologist                      |

|     | ky o                        | no tr k t                         |
|-----|-----------------------------|-----------------------------------|
| 7:  | Dr. Gayatri Yadav           | Resident Doctor                   |
| 7A  | Dr. Gresha Kharel           | Resident Doctor                   |
| 7B  | Dr. Himamshu Nepal          | Consultant Cardiologist           |
| 7C  | Dr. Jagat Adhikari          | Resident Doctor                   |
| 7D  | Dr. Kartikesh Kumar Thakur  | Registrar, Cardiology             |
| 7E  | Dr. Kiran Prasad Acharya    | Resident Doctor                   |
| 86  | Dr. Laxeshwar Pradhan Sah   | Resident Doctor                   |
| 87  | Dr. Mandita Chamlagain      | Resident Doctor                   |
| 88  | Dr. Manish Shrestha         | Pediatric Cardiologist            |
| 89  | Dr. Murari Dhungana         | Cardiologist                      |
| 8:  | Dr. Poonam Sharma           | Registrar, Pediatric Cardiology   |
| 8A  | Dr. Prashant Bajracharya    | Registrar, Cardiology             |
| 8B  | Dr. Pravin Kumar Yadav      | Resident Doctor                   |
| 8C  | Dr. Rabi Malla              | Sr. Consultant Cardiologist       |
| 8D  | Dr. Rabindra Pandey         | Registrar, Cardiology             |
| 8E  | Dr. Rabindra Simkhada       | Cardiologist                      |
| 96  | Dr. Rajeeb Rajbhandari      | Consultant Cardiologist           |
| 97  | Dr. Rakesh Bahadur Adhikari | Registrar, Cardiology             |
| 98  | Dr. Reeru Manandhar         | Registrar, Cardiology             |
| 99  | Dr. Rikesh Tamrakar         | Cardiologist                      |
| 9:  | Dr. Roshan Raut             | Consultant Cardiologist           |
| 9A  | Dr. Roshani Shahi           | Resident Doctor                   |
| 9B  | Dr. Sachin Dhungel          | Registrar, Cardiology             |
| 9C  | Dr. Sadichhya Karki         | Resident Doctor                   |
| 9D  | Dr. Sanjay Singh K.C.       | Registrar, Cardiology             |
| 9E  | Dr. Sanjeev Mahat           | Resident Doctor                   |
| : 6 | Dr. Satish Kumar Singh      | Registrar, Cardiology             |
| : 7 | Dr. Saurya Pahadi           | Resident Doctor                   |
| : 8 | Dr. Sheikh Aslam            | Resident Doctor                   |
| : 9 | Dr. Shilpa Aryal            | Registrar, Pediatric Cardiology   |
| ::  | Dr. Shreeti Vaidya          | Resident Doctor                   |
| : A | Dr. Sonu Basnet             | Resident Doctor                   |
| : B | Dr. Subhash Chandra Shah    | Registrar, Cardiology             |
| : C | Dr. Subodh Kansakar         | Consultant Cardiologist           |
| : D | Dr. Sujeeb Rajbhandari      | Sr. Consultant Cardiologist       |
| : E | Dr. Surakshya Joshi         | Registrar, Cardiology             |
| A6  | Dr. Swikriti Shrestha       | Resident Doctor                   |
| A7  | Dr. Taanya Chaudhary        | Resident Doctor                   |
| A8  | Dr. Urmila Shakya           | Consultant Pediatric Cardiologist |
| A9  | Dr. Vidhata Bhandari K.C    | Resident Doctor                   |
| A   | Dr. Yubaraj Limbu           | Consultant Cardiologist           |

## DEPARTMENT OF ANESTHESIOLOGY

|   | ky o                        | no tr k t                             |
|---|-----------------------------|---------------------------------------|
| 7 | Dr. Ashish Amatya           | Anesthesiologist                      |
| 8 | Dr. Battu Kumar Shrestha    | Registrar, Anesthesiology             |
| 9 | Dr. Bijeeta Khadka          | Resident Doctor                       |
| : | Dr. Jejunath Pokharel       | Sr. Consultant Anesthesiologist & HOD |
| A | Dr. Parbesh Kumar Gyawali   | Registrar, Anesthesiology             |
| B | Dr. Rabin Baidya            | Registrar, Anesthesiology             |
| C | Dr. Sandip Bhandari         | Registrar, Anesthesiology             |
| D | Dr. Santosh Khatri          | Registrar, Anesthesiology             |
| E | Dr. Santosh Sharma Parajuli | Registrar, Anesthesiology             |

## DEPARTMENT OF CARDIAC REHABILITATION & HEALTH PROMOTION

|   | ky o             | no tr k t                  |
|---|------------------|----------------------------|
| 7 | Nff ffv i v vfv  | h 4h v c z                 |
| 8 | P 4hThfff v v    | h 4eTh ff Th v ff          |
| 9 | P 4n w vffa ff w | O ftv Ov yff ft •ff , Ud P |
| : | e Thv c z v z    | h 4h v c z                 |
| A | g vffz Y v nvyv  | eTh ff Th v M ff v         |
| B | nv Thyv a ffzft  | h 4eTh ff Th v M ff v      |

## VISITING SPECIALISTS

|   | ky o               | no tr k t           |
|---|--------------------|---------------------|
| 7 | P 4g v fff Nv vft  | O ftv Ov yff ft •ff |
| 8 | b 4b vTh y v NTh v | h 4ez - ff ff       |

## DEPARTMENT OF NURSING

|    | ky o                | no tr k t                 |
|----|---------------------|---------------------------|
| 1  | Aleena Khanal       | Staff Nurse               |
| 2  | Ambika Shrestha     | Staff Nurse               |
| 3  | Amita Singh         | Staff Nurse               |
| 4  | Amrita Singh Tamang | Staff Nurse               |
| 5  | Anisha Ghimire      | Staff Nurse               |
| 6  | Anita Dewan         | Matron/Nursing Supervisor |
| 7  | Anita Gupta         | Staff Nurse               |
| 8  | Anita Sharma Paudel | Staff Nurse               |
| 9  | Anjali Khatri       | Staff Nurse               |
| 10 | Anjana Koirala      | Sister                    |
| 11 | Anusha Acharya      | Staff Nurse               |
| 12 | Apeksha Ghale       | Staff Nurse               |
| 13 | Apurwa Sawad        | Staff Nurse               |

|    | <b>ky o</b>          | <b>no tr k t</b>   |
|----|----------------------|--------------------|
| 14 | Arzoo Neupane        | Staff Nurse        |
| 15 | Asha Kumari Jha      | Staff Nurse        |
| 16 | Ashmina Aryal        | Staff Nurse        |
| 17 | Ashmita Shrestha     | Staff Nurse        |
| 18 | Ashmita Silwal       | Staff Nurse        |
| 19 | Asmita Bisowkarma    | Staff Nurse        |
| 20 | Asmita Karki         | Staff Nurse        |
| 21 | Asmita Lamichhane    | Staff Nurse        |
| 22 | Astha Dhamala        | Staff Nurse        |
| 23 | Bal Kumari Chaudhary | Staff Nurse        |
| 24 | Bandana Bogati       | Staff Nurse        |
| 25 | Bandana Sankhi       | Staff Nurse        |
| 26 | Barsha Bhandari      | Staff Nurse        |
| 27 | Basanta Sharma       | Sr. Staff Nurse    |
| 28 | Bidhya Malla         | Staff Nurse        |
| 29 | Bijaya Aryal         | Staff Nurse        |
| 30 | Bimala Chand         | Staff Nurse        |
| 31 | Bina Paneru          | Sr. Staff Nurse    |
| 32 | Bina Sherpa          | Staff Nurse        |
| 33 | Bina Shrestha        | Staff Nurse        |
| 34 | Bindiya Shrestha     | Staff Nurse        |
| 35 | Bindu Adhikari       | Staff Nurse        |
| 36 | Binita Sapkota       | Staff Nurse        |
| 37 | Binita Tamrakar      | Sr. Staff Nurse    |
| 38 | Binita Thapa         | Staff Nurse        |
| 39 | Bishnu Pandey        | Sister             |
| 40 | Chahana Singh        | Staff Nurse        |
| 41 | Chandika Gwachha     | Staff Nurse        |
| 42 | Chunam Khadka        | Staff Nurse        |
| 43 | Deepa Bajracharya    | Staff Nurse        |
| 44 | Deepa Devkota        | Staff Nurse        |
| 45 | Deepa Kumari Baral   | Staff Nurse        |
| 46 | Deepika Kathayat     | Staff Nurse        |
| 47 | Deepika Mudhbhari    | Staff Nurse        |
| 48 | Deepika Shrestha     | Staff Nurse        |
| 49 | Deoki Saru           | Sister             |
| 50 | Dibyashori Khati     | Sr. Staff Nurse-II |
| 51 | Elin Chauhan         | Staff Nurse        |
| 52 | Gita Tamang          | Staff Nurse        |
| 53 | Heena Maharjan       | Staff Nurse        |
| 54 | Hemu Pun             | Staff Nurse        |
| 55 | Hira Adhikari        | Staff Nurse        |
| 56 | Inu Tamang           | Staff Nurse        |
| 57 | Isha Lama            | Staff Nurse        |
| 58 | Ishwori Gautam       | Staff Nurse        |

|     | <b>k y o</b>           | <b>n o t r k t</b> |
|-----|------------------------|--------------------|
| 59  | Jamuna Khanal          | Staff Nurse        |
| 60  | Janaki Ayer            | Staff Nurse        |
| 61  | Januka Khadka          | Staff Nurse        |
| 62  | Jenisha Shrestha       | Staff Nurse        |
| 63  | Jina KC                | Staff Nurse        |
| 64  | Jyoti Khatiwoda        | Staff Nurse        |
| 65  | Jyoti Rai              | Staff Nurse        |
| 66  | Jyoti Shrestha         | Staff Nurse        |
| 67  | Kabita Baniya          | Staff Nurse        |
| 68  | Kalpana D.C            | Staff Nurse        |
| 69  | Kalpana Thapa          | Staff Nurse        |
| 70  | Kalpana Timilsina      | Sister             |
| 71  | Kamana Paudel          | Staff Nurse        |
| 72  | Kanchan Kusatha        | Staff Nurse        |
| 73  | Kopila Luitel          | Nursing Supervisor |
| 74  | Krishna Shwari Gwachha | Sr. Staff Nurse    |
| 75  | Kunti Khanal           | Sister             |
| 76  | Lalita Maharjan        | Sister             |
| 77  | Lalita Poudel          | Sr. Staff Nurse    |
| 78  | Laxmi Aryal            | Staff Nurse        |
| 79  | Laxmi Bista            | Staff Nurse        |
| 80  | Leela Khanal           | Staff Nurse        |
| 81  | Leela Rana KC          | Sr. Staff Nurse-II |
| 82  | Madhuri Thapa          | Staff Nurse        |
| 83  | Madhushree Khanal      | Staff Nurse        |
| 84  | Mahima Shrestha        | Staff Nurse        |
| 85  | Mamata Ojha            | Staff Nurse        |
| 86  | Man Kumari Shris Thapa | Staff Nurse        |
| 87  | Mandira Khadka         | Staff Nurse        |
| 88  | Manika Tamang          | Staff Nurse        |
| 89  | Manisha Pudasaini      | Staff Nurse        |
| 90  | Manjila Ghimire        | Staff Nurse        |
| 91  | Manju Acharya          | Staff Nurse        |
| 92  | Manju Khadka           | Staff Nurse        |
| 93  | Manju Pyakurel         | Staff Nurse        |
| 94  | Manju Timilsina        | Sister             |
| 95  | Mausam Rai             | Staff Nurse        |
| 96  | Menuka Silwal          | Staff Nurse        |
| 97  | Mina KC                | Sr. Staff Nurse    |
| 98  | Mukta Shrestha         | Staff Nurse        |
| 99  | Nabina Karki           | Staff Nurse        |
| 100 | Namrata Rawal          | Staff Nurse        |
| 101 | Nilima Joshi           | Staff Nurse        |
| 102 | Nira Shrestha          | Staff Nurse        |
| 103 | Nirjala Khanal         | Staff Nurse        |

|     | ky o                | no tr k t                |
|-----|---------------------|--------------------------|
| 104 | Nirmala BudaMagar   | Staff Nurse              |
| 105 | Nisha Kusum Rai     | Staff Nurse              |
| 106 | Nita Dangol         | Chief Nursing Supervisor |
| 107 | Niti Shrestha       | Staff Nurse              |
| 108 | Pabitra Pandey      | Staff Nurse              |
| 109 | Palma Tamang        | Staff Nurse              |
| 110 | Pooja Poddar        | Staff Nurse              |
| 111 | Pooja Subedi        | Staff Nurse              |
| 112 | Poonam Gurung       | Staff Nurse              |
| 113 | Prabha K.C.         | Staff Nurse              |
| 114 | Prabha Paudel       | Staff Nurse              |
| 115 | Pragya K.c          | Staff Nurse              |
| 116 | Prajita Shrestha    | Staff Nurse              |
| 117 | Prajwala Baniya     | Staff Nurse              |
| 118 | Pramila Subedi      | Staff Nurse              |
| 119 | Prati Badan Dangol  | Nursing Supervisor       |
| 120 | Pratikshya Shrestha | Staff Nurse              |
| 121 | Pratima Acharya     | Staff Nurse              |
| 122 | Pratima Dhakal      | Staff Nurse              |
| 123 | Pratima Niraula     | Staff Nurse              |
| 124 | Pratima Simkhada    | Staff Nurse              |
| 125 | Pratistha Bhattarai | Staff Nurse              |
| 126 | Prekshya Shakya     | Staff Nurse              |
| 127 | Puja Kafle          | Staff Nurse              |
| 128 | Puja Satyal         | Staff Nurse              |
| 129 | Punam Shrestha      | Staff Nurse              |
| 130 | Purnima Sedain      | Staff Nurse              |
| 131 | Pushpa Neupane      | Sr. Staff Nurse          |
| 132 | Pushpa Sharma       | Staff Nurse              |
| 133 | Puspa Karmacharya   | Staff Nurse              |
| 134 | Puspa Kumari Gurung | Staff Nurse              |
| 135 | Puspa Marasini      | Staff Nurse              |
| 136 | Radhika Mudbhari    | Staff Nurse              |
| 137 | Raj Kumari Shrestha | Staff Nurse              |
| 138 | Rajani Shrestha     | Staff Nurse              |
| 139 | Rajyalaxmi Bhele    | Sister                   |
| 140 | Rameswori Duwal     | Staff Nurse              |
| 141 | Ranjana Pandey      | Staff Nurse              |
| 142 | Rashmi Basnet       | Staff Nurse              |
| 143 | Rashmi Karki (A)    | Staff Nurse              |
| 144 | Rashmi Karki(B)     | Staff Nurse              |
| 145 | Rashmila Manandhar  | Staff Nurse              |
| 146 | Rekha Karki         | Staff Nurse              |
| 147 | Rekha Kumari        | Staff Nurse              |
| 148 | Rephika Maharjan    | Staff Nurse              |

|     | <b>ky o</b>        | <b>no tr k t</b> |
|-----|--------------------|------------------|
| 149 | Reshma Thapa       | Sr. Staff Nurse  |
| 150 | Richa Bista        | Staff Nurse      |
| 151 | Roji Shakya        | Sister           |
| 152 | Rojina Bhujel      | Staff Nurse      |
| 153 | Rojina Guragain    | Staff Nurse      |
| 154 | Rojina Rayamajhi   | Staff Nurse      |
| 155 | Romy Twayana       | Staff Nurse      |
| 156 | Roshani Manandhar  | Staff Nurse      |
| 157 | Rubina Prasai      | Staff Nurse      |
| 158 | Rumina Dhakal      | Staff Nurse      |
| 159 | Rupisha Karki      | Staff Nurse      |
| 160 | Sabina Baral       | Staff Nurse      |
| 161 | Sabina Shrestha    | Staff Nurse      |
| 162 | Sabina Thimi       | Staff Nurse      |
| 163 | Sabina Tiwari      | Staff Nurse      |
| 164 | Sabina Tulsibakhyo | Staff Nurse      |
| 165 | Sabita Bhusal      | Staff Nurse      |
| 166 | Sabita Karki       | Staff Nurse      |
| 167 | Sabita Khanal      | Staff Nurse      |
| 168 | Sachita Gaire      | Staff Nurse      |
| 169 | Safala Subedi      | Staff Nurse      |
| 170 | Sagun Sharma       | Staff Nurse      |
| 171 | Sakuntala Karki    | Staff Nurse      |
| 172 | Salina Tamang      | Staff Nurse      |
| 173 | Samiksha Karki     | Staff Nurse      |
| 174 | Samita Thapa Magar | Staff Nurse      |
| 175 | Samjana Mishra     | Staff Nurse      |
| 176 | Samjhana Karki     | Staff Nurse      |
| 177 | Samjhana Pandey    | Staff Nurse      |
| 178 | Samriddhi Khanal   | Staff Nurse      |
| 179 | Samriddhi Timalina | Staff Nurse      |
| 180 | Sandhya Rijal      | Staff Nurse      |
| 181 | Sandhya Thapa      | Staff Nurse      |
| 182 | Sangeeta Gyawali   | Staff Nurse      |
| 183 | Sangita Baskota    | Staff Nurse      |
| 184 | Sangita Kafle      | Staff Nurse      |
| 185 | Sangita Khatiwada  | Staff Nurse      |
| 186 | Sangita Lama       | Staff Nurse      |
| 187 | Sanjita Dhakal     | Staff Nurse      |
| 188 | Sanju Shah         | Staff Nurse      |
| 189 | Sapana Maharjan    | Sr. Staff Nurse  |
| 190 | Sarala Malla       | Staff Nurse      |
| 191 | Sarala Shrestha    | Staff Nurse      |
| 192 | Sarita Dhakal      | Staff Nurse      |
| 193 | Sashi Lama         | Staff Nurse      |

|     | ky o                 | no tr k t       |
|-----|----------------------|-----------------|
| 194 | Season Bista         | Staff Nurse     |
| 195 | Shailee Karanjit     | Staff Nurse     |
| 196 | Shakuntala Mahat     | Staff Nurse     |
| 197 | Shama Singh Kunwar   | Staff Nurse     |
| 198 | Shanta Singh Thakuri | Staff Nurse     |
| 199 | Shanti Bhele         | Staff Nurse     |
| 200 | Shanti Gurung        | Staff Nurse     |
| 201 | Sharad Rayamajhi     | Staff Nurse     |
| 202 | Sharmila Dhukuchhu   | Staff Nurse     |
| 203 | Sharmila Neupane     | Staff Nurse     |
| 204 | Sharmila Thapa       | Staff Nurse     |
| 205 | Shikha Bhujel        | Staff Nurse     |
| 206 | Shila Shrestha       | Staff Nurse     |
| 207 | Shilpa Shrestha      | Staff Nurse     |
| 208 | Shova Shrestha       | Staff Nurse     |
| 209 | Shovana Shrestha     | Sr. Staff Nurse |
| 210 | Shovna Shrestha      | Staff Nurse     |
| 211 | Shreejana Gautam     | Staff Nurse     |
| 212 | Shristi Dhakal       | Staff Nurse     |
| 213 | Shristi Maharjan     | Staff Nurse     |
| 214 | Shriya Poudel        | Staff Nurse     |
| 215 | Shushma Tamang       | Staff Nurse     |
| 216 | Siba Laxmi Shrestha  | Staff Nurse     |
| 217 | Sirjana Adhikari     | Staff Nurse     |
| 218 | Sirjana Paudel       | Staff Nurse     |
| 219 | Sisira Rajthala      | Staff Nurse     |
| 220 | Srijana Bhele        | Staff Nurse     |
| 221 | Srijana Dhital       | Staff Nurse     |
| 222 | Srijana Pathak       | Staff Nurse     |
| 223 | Srijana Thapa        | Staff Nurse     |
| 224 | Srijana Tiwari       | Staff Nurse     |
| 225 | Suchi Yang Taman     | Staff Nurse     |
| 226 | Sujan G.C.           | Staff Nurse     |
| 227 | Sujata Adhikari      | Staff Nurse     |
| 228 | Sujata Ghimire       | Staff Nurse     |
| 229 | Sujata K.c           | Staff Nurse     |
| 230 | Sumitra Thapa        | Staff Nurse     |
| 231 | Sunaina Shakya       | Staff Nurse     |
| 232 | Sunita Khadka        | Sister          |
| 233 | Sunita Pandey        | Staff Nurse     |
| 234 | Suraksha Dhungana    | Staff Nurse     |
| 235 | Sushila Ghimire      | Staff Nurse     |
| 236 | Sushila Maharjan     | Staff Nurse     |
| 237 | Sushma Basnet        | Staff Nurse     |

|     | ky o            | no tr k t          |
|-----|-----------------|--------------------|
| 238 | Sushmita Bista  | Staff Nurse        |
| 239 | Susmita Pun     | Staff Nurse        |
| 240 | Tripti Singh    | Staff Nurse        |
| 241 | Tulasa KC       | Nursing Supervisor |
| 242 | Usha Paudel     | Staff Nurse        |
| 243 | Ushna Shrestha  | Sr. Staff Nurse    |
| 244 | Vidhya Koirala  | Nursing Supervisor |
| 245 | Yogina Maharjan | Staff Nurse        |

## FINANCE

|    | ky o                | no tr k t                         |
|----|---------------------|-----------------------------------|
| 7  | Nffzfi v v          | Mxx M ff v                        |
| 8  | Nff y YTh vft       | Mxx h w3M ff v                    |
| 9  | Y ffThv NvThy Y vft | Mxx h w3M ff v                    |
| :  | b v fff v Nff v     | P 4OTf- -Sff v xffftMy ff ff v ff |
| A  | b fff YD4           | Mxx h w3M ff v                    |
| B  | c v z ThOTff vft    | Sff v xz d xz                     |
| C  | c zz P vThft        | h 4Mxx M ff v                     |
| D  | hwff b v v yTh      | h 4Mxx M ff v                     |
| E  | hv ffi b vTh ffi    | Mxx M ff v                        |
| 76 | h ThffNih vft       | Mxx h w3M ff v                    |

## ADMINISTRATION

|    | ky o                     | no tr k t                 |
|----|--------------------------|---------------------------|
| 7  | NTh v v ffT vffz         | My ff ff v ffz M ff v     |
| 8  | NTh vftMkTh v            | My ff ff v ffz d xz       |
| 9  | Nffv ThYTh ff v          | My ff ff v ffz M ff v     |
| :  | Nff vfv M vft            | h 4My ff ff v ffz d xz    |
| A  | Nff vfv hv fi v          | My ff ff v ffz M ff v 3W  |
| B  | OTh v av v               | h 4My ff ff v ffz M ff v  |
| C  | P ffz y v YThyfv         | OTf- -My ff ff v ff       |
| D  | P 4W ff y v hTh v        | R zx ffz P ffzx           |
| E  | T v Pz ffMkTh v          | My ff ff v ffz h w3M ff v |
| 76 | Yvwffv Y fffv YTh ff vvv | My ff ff v ffz M ff v     |
| 77 | av ffe v vy gffft        | My ff ff v ffz h w3M ff v |
| 78 | b vTh y v av vft         | h 4My ff ff v ffz M ff v  |
| 79 | b v yffv YThyfv          | My ff ff v ffz h w3M ff v |
| 7: | e v ff vb vffv vfi ff    | My ff ff v ffz M ff v     |
| 7A | g v MkTh v               | h 4My ff ff v ffz d xz    |
| 7B | g v Nw g v               | h 4b zyfkvfgzx y M ff v   |
| 7C | h yv v e v vff           | My ff ff v ffz h w3M ff v |
| 7D | h yTh hff yzft           | My ff ff v ffz h w3M ff v |
| 7E | n wgvffi ff fffv         | h 4My ff ff v ffz M ff v  |

## RADIOLOGY

|    | k y o                      | n o t r k t                  |
|----|----------------------------|------------------------------|
| 7  | Anup Rimal                 | Radiographer                 |
| 8  | Baidh Nath Yadav           | Sr. Radiography Technologist |
| 9  | Bijaya Shrestha            | Sr. Radiographer             |
| :  | Dr. Pragati Shrestha       | Registrar, Radiology & HOD   |
| A  | Dr. Saurav Sundar Shrestha | Resident Doctor              |
| B  | Indesh Thakur              | Sr. Radiography Technologist |
| C  | Laxminarayan Singh         | Radiographer                 |
| D  | Mahesh Khadka              | Radiographer                 |
| E  | Prakash Timalisina         | Radiographer                 |
| 76 | Pramod Khatri              | Sr. Radiographer             |
| 77 | Raj Shekhar Yadav          | Radiographer                 |
| 78 | Ramesh Thapa               | Dark Room Assistant-II       |
| 79 | Saroj Chhetry              | Radiography Technologist     |
| 14 | Sebika Baniya Pandit       | Radiographer                 |
| 15 | Seema Gyawali              | Radiographer                 |
| 16 | Shulav Paudel              | Radiography Technologist     |
| 17 | Shyam Kumar Adhikari       | Sr. Radiographer             |
| 18 | Shyam Thakur               | Sr. Radiographer             |
| 19 | Sriju K C                  | Radiographer                 |
| 20 | Sunita Khawaju             | Radiographer                 |

## PHARMACY

|    | k y o              | n o t r k t            |
|----|--------------------|------------------------|
| 7  | Atmaram Timalisina | Sr. Pharmacy Assistant |
| 8  | Devendra Yadav     | Health Assistant       |
| 9  | Indrajit Yadav     | Sr. Health Assistant   |
| :  | Jaykishor Shah     | Health Assistant       |
| A  | Kamal Bahadur Rana | Pharmacy Assistant     |
| B  | Madhu Giri         | Sr. Pharmacist         |
| C  | Manoj Kumar Yadav  | Health Assistant       |
| D  | Nabina Thapa       | Pharmacy Assistant     |
| E  | Niru Ratyal        | Sr. Health Assistant   |
| 76 | Prem Raj K.C.      | Pharmacy Assistant     |
| 77 | Rajendra Khatiwada | Pharmacy Assistant     |
| 78 | Rita Chapain       | Pharmacy Assistant     |
| 79 | Shunil Acharya     | Pharmacist             |
| 14 | Upama Parajuli     | Pharmacy Assistant     |

## PATHOLOGY

|    | k y o               | n o t r k t              |
|----|---------------------|--------------------------|
| 7  | Ajita Lamichhane    | Lab Technician           |
| 8  | Arya Tara Shilpakar | Medical Lab Technologist |
| 9  | Bijaya Kumar Thakur | Lab Technician           |
| :  | Bikash Bhusal       | Sr. Lab Technician       |
| A  | Bindeshwar Yadav    | Medical Lab Technologist |
| B  | Binod Kumar Yadav   | Medical Lab Technologist |
| C  | Daltan Dahal        | Lab Technician           |
| D  | Dipendra Khadka     | Lab Technician           |
| E  | Karna B.K.          | Lab Technician           |
| 76 | Narendra Shrestha   | Lan Technician-II        |
| 77 | Nawal Kishor Yadav  | Lab Technician           |
| 78 | Pradeep Khanal      | Lab Technician           |
| 79 | Pranila Chitrakar   | Lab Technician           |
| 7: | Prasamsha Adhikari  | Lab Technician           |
| 7A | Rajnarayan Mishra   | Sr. Lab Technician       |
| 7B | Renu Shakya         | Sr. Lab Technician       |
| 7C | Sarala Koirala      | Lan Technician- II       |
| 7D | Sugrib Shrestha     | Lab Technician           |
| 7E | Suresh Kumar Gupta  | Sr. Lab Technician       |
| 86 | Sushila Shrestha    | Lab Technician           |
| 87 | Unnati Kadel        | Lab Technician           |

## MAINTENANCE UNIT

|   | k y o                   | n o t r k t   |
|---|-------------------------|---------------|
| 7 | Bhagawan Karki          | Overseer      |
| 8 | Bhogendra Narayan Shah  | Sub- Overseer |
| 9 | Bishwa Ram Adhikari     | Plumber-II    |
| : | Dinesh Maharjan         | Plumber       |
| A | Kedar Raj Khadka        | Plumber-II    |
| B | Nawaraj Roka            | Sub- Overseer |
| C | Shamsher Bahadur Basnet | Plumber-II    |

## TRANSPORTATION UNIT

|   | k y o                      | n o t r k t |
|---|----------------------------|-------------|
| 7 | Bhai Narayan Maharjan      | Driver-II   |
| 8 | Bharat Bahadur Khadka      | Driver-II   |
| 9 | Bhej Bahadur Moktan        | Driver-II   |
| : | Gyan Kaji Maharjan         | Driver-II   |
| A | Krishna Bahadur Budhathoki | Driver-III  |
| B | Pitambar Bhujel            | Driver-II   |
| C | Rup Bdr Thapa              | Driver-II   |
| D | Sadhuram Pandit            | Driver-II   |
| E | Yagya Bahadur Khulal       | Driver-II   |

## OFFICE HELPER

|   | k y o              | n o t r k t       |
|---|--------------------|-------------------|
| 7 | Biju Kuwar Chhetri | Office Helper     |
| 8 | Gauri Devi Sharma  | Office Helper-III |
| 9 | Kalpana Bhattarai  | Office Helper-II  |
| : | Kamala Gautam      | Office Helper-II  |
| A | Madhav Thapa       | Office Helper-III |
| B | Shanti KC          | Office Helper-III |
| C | Sharada Khanal     | Office Helper-III |
| D | Sushila Bista      | Office Helper-II  |

## JANAKPUR BRANCH

|    | k y o                 | n o t r k t     |
|----|-----------------------|-----------------|
| 7  | Dr. Amit Kumar Singh  | Cardiologist    |
| 8  | Asmita Yadav          | Staff Nurse     |
| 9  | Bina Kumari Sah       | Staff Nurse     |
| :  | Mamta Kumari Thakur   | Lab Technician  |
| A  | Nisha Chaudhary       | Staff Nurse     |
| B  | Dr. Om Prakash Jha    | Medical Officer |
| C  | Omkar Poudel          | Lab Technician  |
| D  | Dr. Rajesh Kumar Shah | Cardiologist    |
| E  | hv •ffv Y v ffinyv    | g vyff • v Th   |
| 76 | P 4i v zz Mlh zy      | b zyffvftd xz   |

