Abstract 1121 Table 1

	Pre-implementation of review sheet.	Post-implementation of review sheet
	Median Value	Median Value
1. Background and history of a patient is clear when I review notes.	3	1
2. There is a room for improvement with daily review sheet.	3	2
3. Communication between doctors and midwives is clear in documentation.	3	3
4. Patient daily plan is clear from documentation.	3	1
5. It is clear from documentation if NIPE was done.	4	1
6. Discharge and follow up plan is clearly documented on daily review sheet.	4	1
7. It is clear from documentation that patient has antenatal paediatric alert.	4	1

has made. The questionnaire contained 7 questions regarding whether staff thought different aspects of documentation and communication was clear with a suggestions/comments section. A Likert scale with questions ranked from 1 – 5 with 1 equal to agree and 5 equal to disagree, therefore 3 equals neither agree or disagree.

Results 14 members of staff filled in our questionnaire before and 12 after (table 1).

Conclusions The overall median value (table 1) for clarity of documentation, discharge and follow up plans, documentation of the newborn infant physical examination (NIPE) and antenatal paediatric alert (which notify antenatal problems) improved from 4 to 1 showing improvement in overall communication and facilitated daily reviews by structuring documentation, this could be further reviewed. There are recent reviews that recommend combined notes for medical and nursing/midwifery staff, so that important information is not lost between teams. A daily review sheet will greatly aid this process.

British Paediatric Allergy Immunity and Infection Group

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INTERACTIVE EFFECTS BETWEEN RHINOVIRUS SUBTYPES AND *CDHR3* GENOTYPES FOR SEVERITY OF RESPIRATORY TRACT INFECTIONS

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10.1136/archdischild-2021-rcpch.413

Background Respiratory tract infection (RTI) is the commonest acute illness in children. Human rhinovirus (HRV) is among the top prevalent respiratory pathogens for RTI, also

a major contributor to childhood asthma exacerbations. The non-synonymous mutation rs6967330-A of *CDHR3* is associated with more severe phenotype of early asthma, upregulates surface expression of HRV-C specific receptor, and relates to higher intracellular HRV-C titre after inoculation. Nevertheless, the relationship between *CDHR3* genotype and severity of HRV infection in general paediatric patients remains unclear.

Objectives This cross-sectional study aimed to investigate the interactive effects between HRV subtype and *CDHR3* genotype in clinical severity from respiratory HRV infections in Hong Kong children.

Methods Total 1564 medical records of paediatric patients (0 – 18 years old) hospitalized for HRV-related respiratory illnesses from January 2015 to December 2016 were reviewed. Viral RNA and host DNA extracted from the corresponding nasopharyngeal aspirates (NPAs) archives collected on admission underwent HRV subtyping and *CDHR3*_rs6967330 genotyping. Cases were considered as valid only if they had satisfying results from both experiments. Patients co-infected with other respiratory pathogens or with insufficient clinical details were excluded from analyses. Multivariate regression model adjusting for age and gender was implemented for explorations regarding independent and interactive effects on clinical outcomes. Genetic effect of *CDHR3* genotype was analyzed in additive pattern.

Results 1507 cases had valid results from both HRV and *CDHR3* branches. HRV Sequencing yielded 48.6% HRV-C, 45.7% HRV-A, and 5.7% HRV-B. Minor allele frequency (MAF) for rs6967330-A was 9.7% (GG 81.9%, AG 16.9%, and AA 1.2%). Patients with A allele were more susceptible to HRV-C infections [odds ratio (OR) = 1.53, 95% confidence interval (CI) 1.20 - 1.96, $P = 0.001$]. Following exclusion, 1019 (62.12% male) cases with average age of 3.1 years old were analysed for HRV-*CDHR3* interactive effects on clinical outcomes. Compared with the other two subtypes, HRV-C was associated with lower RTI (OR = 3.16, 95% CI 2.44 - 4.09; $P < 0.001$), particularly wheezing illnesses (OR = 3.49, 95% CI 2.68 - 4.54; $P < 0.001$), requirement for oxygen supplementation (OR = 4.04, 95% CI 2.59 - 6.30; $P < 0.001$) and systemic steroid treatment (OR = 4.23, 95% CI 2.88 - 6.20; $P < 0.001$). On the contrary, risk allele alone did not showed association with clinical diagnosis or RTI severity. Compared to the reference group (GG, non-HRVC infection), subjects possess both risk factors had increased risk for wheezing illnesses (OR = 3.74, 95% CI 2.40 - 5.84; $P < 0.001$) and more severe RTI (oxygen supplement: OR = 4.87, 95% CI 2.50 - 9.47; $P < 0.001$; systemic steroid usage: OR = 5.68, 95% CI 3.23 - 9.98; $P < 0.001$).

Conclusions This study identifies interactions between HRV-C and *CDHR3*_rs6967330 A allele in Hong Kong children. HRV-C infection is associated with increased risk of lower RTI and more severe respiratory diseases. coexistence of risk allele and HRV-C have synergistic effect in enhancing the above risks. (Funding: Hong Kong Institute of Allergy Research Grant).